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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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686TH MEETING

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

(ACRS)

+ + + + +

WEDNESDAY

JUNE 2, 2021

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The Advisory Committee met via Teleconference, at 11:00 a.m. EDT, Matthew W. Sunseri, Chairman, presiding.

COMMITTEE MEMBERS:

MATTHEW W. SUNSERI, Chairman

JOY L. REMPE, Vice Chairman

WALTER L. KIRCHNER, Member-at-Large

VICKI M. BIER, Member

DENNIS BLEY, Member

CHARLES H. BROWN, JR., Member

GREGORY H. HALNON, Member

VESNA B. DIMITRIJEVIC, Member

JOSE MARCH-LEUBA, Member

DAVID PETTI, Member

PETER RICCARDELLA, Member

ACRS CONSULTANT:

STEPHEN SCHULTZ

DESIGNATED FEDERAL OFFICIAL:

WEIDONG WANG

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P R O C E E D I N G S

11:00 a.m.

CHAIRMAN SUNSERI: (Presiding) Good morning, everyone. It's 11:00 a.m. Eastern Time. The meeting will now come to order.

This is the first day of the 696th meeting of the Advisory Committee on Reactor Safeguards. I'm Matthew Sunseri, Chair of the ACRS.

I'll call the roll now to verify a quorum and that open communications exist.

Member Ballinger is not available this morning. He will join us later this week.

I'll start with Vicki Bier.

MEMBER BIER: Present.

CHAIRMAN SUNSERI: Thank you.

Dennis Bley?

CHAIRMAN BLEY: I'm here.

CHAIRMAN SUNSERI: Charles Brown?

MEMBER BROWN: I'm here.

CHAIRMAN SUNSERI: Vesna Dimitrijevic?

MEMBER DIMITRIJEVIC: I'm here.

CHAIRMAN SUNSERI: Greg Halnon?

MEMBER HALNON: Yes, I'm here.

CHAIRMAN SUNSERI: Walt Kirchner?

MEMBER KIRCHNER: Here.

CHAIRMAN SUNSERI: Jose March-Leuba?

MEMBER MARCH-LEUBA: Here.

CHAIRMAN SUNSERI: Dave Petti?

MEMBER PETTI: Here.

CHAIRMAN SUNSERI: Joy Rempe?

VICE CHAIR REMPE: Here.

CHAIRMAN SUNSERI: Pete Riccardella?

MEMBER RICCARDELLA: Here.

CHAIRMAN SUNSERI: And myself.

So, we have everyone present. We have a quorum, and everyone was loud and clear.

The ACRS was established by the Atomic Energy Act and is governed by the Federal Advisory Committee Act, and the ACRS section of the U.S. NRC public website provides information about the history of the ACRS and provides documents such as our Charter, Bylaws, Federal Register notices for meetings, letter reports, and transcripts of all full and subcommittee meetings, including the slides presented at the meetings. The Committee provides its advice on safety matters to the Commission through its publicly available letter reports.

The Federal Register notice announcing this meeting was published on May 7th, 2021, and provided an agenda and instructions for interested

parties to provide written documents or to request opportunities to address the Committee.

The Designated Federal Officer for this meeting is Mr. Weidong Wang.

During this meeting, the Committee will consider the following topics:

Our first topic for today is an informational briefing on Risk-Informed Process for Evaluations of Low Safety-Significance Issue Resolution; LSSIR for short.

Later this morning, we'll get into preparation of reports, which the only report that we are working on currently is our Bylaws review. So, we'll spend some time on that.

And then, later in this week, we will prepare for our briefing to the Commission, which is scheduled for October this year.

Portions of the informational briefing on Risk-Informed Process Evaluations may be closed to the public to protect proprietary information.

A phone bridge line has been opened to allow members of the public to listen in on the presentations and Committee discussions.

We have received no written comments or requests to make oral statements from any members of

the public regarding today's sessions.

There will be an opportunity for public comment. We have set aside time in the agenda for comments from the members of the public listening into our meeting. Additionally, written comments may be forwarded to Mr. Weidong Wang, the Designated Federal Officer.

A transcript of portions of the open meeting is being kept, and it is requested that speakers identify themselves and speak with sufficient clarity and volume, so that they may readily be heard.

In addition and finally, participants should mute themselves when not speaking. And this is particularly important for the public line because of the way the muting system works, at least from our technology perspective, and the interface with MS Teams. We request that all members of the public listening mute your local device, and it's important that you mute your local device, so that any background noise doesn't create feedback. If we have to mute the entire public line, it, essentially, renders it inoperable for two-way communication. So, please, if you are a member of the public listening in, it's essential that you mute your local device. In addition, other participants should mute themselves

when they are not speaking.

As far as additional remarks, I don't really have anything of note to report of general interest. I will say that, from a conduct of the meeting today, the Agency, NRC Headquarters, experienced a significant loss of power last night. It has been restored. However, computer services, information technology services, have had a problem with reliability this morning. It seems to be working it out as the day goes on, but please be patient with members, and members with staff.

If you happen to drop off, just re-sign on, and make sure that you have an alternate backup in case your primary and your preferred method is not available. So, the two primary or predominant methods are through the VPN or through the Office 360 window.

So, that's all I have at this point.

Members, I'll turn to you. Any questions about the agenda or things that we are working on this week, or any topic you want to bring up, before we get into the first presentation?

(No response.)

All right. So, at this point in time, I'll turn to Member Dimitrijevic, who is our lead for this topic. She can introduce the topic and staff.

So, I'll turn to Vesna for your opening remarks.

MEMBER DIMITRIJEVIC: Okay. Good morning.

So, this morning we will hear about the Risk-Informed Process for the Evaluations of Low Safety-Significance Issue Resolution. So, this process applies to proposed changes to facilities; for example, license amendments or exemption requests. It's designed to expedite the review of low safety-significant issues, and in this way, reduce unnecessary regulatory burden, and it enables a more efficient way of using Agency resources. So, it's an important step in the risk-informed decisionmaking process.

And in this moment they have a limited applicability. They apply for operating plants licensed under 10 CFR Part 50, and then, they apply to licenses that have already used tech spec applications like technical specification TSTF-505 or I think 425, too. The 505 applies to extension of completion times Or they have implemented the 10 CFR 50.69. And I think they're applicable for those cases because, in this case, since the PRA technical adequacy has been approved and applicants can use Integrated Decision Panels in making decisions of importance of the issues.

So, at this moment, I am going to turn to the NRC. And I'm not sure who will start, but I know that we will be working with Antonios Zoulis and Timothy Reed, who are developers of this application.

So, who will start today?

MS. WHITMAN: Good morning.

This is Jennifer Whitman. I'm the Acting Deputy Director for NRR's Division of Risk Assessment.

And so, I wanted to thank you all for giving us this opportunity this morning to present to you on the Risk-Informed Process for Evaluations, or RIPE. This is an excellent example of staff-driven innovation efforts. It started with an idea from Antonios, and then, a great team of people putting together all of the guidance and documentation and work to support this.

And it's really capitalizing on the decades of work that both NRC and industry have put into PRAs and risk-informed decisionmaking frameworks. And so, I know Tim and Antonios have a great presentation for you today, and we are looking forward to hearing your thoughts and questions on this topic.

And so, with that, I will go ahead and turn things over to Tim Reed to get us started.

MR. REED: Okay. Thanks.

If we could move to -- yes, there you go.

So, I just wanted to give a little larger context of where this Risk-Informed Process for Evaluations came from. It came from a larger effort that I was the lead for, working for Ho Nieh in this regard. And it's called the Low Safety-Significance Issue Resolution effort. We had a regional sponsor, Jack Giessner, now the Regional Administrator of Region III, who was involved. So, we had a Region and NRR participation of a broad working group.

And what we were really trying to do across the board was trying to mitigate the situations where the NRC's staff is focusing its energy and resources in areas of low safety-significance or no safety-significance. And, of course, as a direct result, that tends to tie up licensee resources. And when everybody's resources are looking in the wrong place, they're not looking in the right place, right? We're distracting them from things that do matter for public health and safety, and those things having safety significance.

So, this box chart is kind of the centerpiece to something that started with Ho. Basically, his drawing of a box on a napkin in his office has turned into this. It's been in several

different forms, but it's nice tool, if you will, to divide the world of licensing issues and inspection findings into four quadrants. And it gives a good understanding of what NRC regulatory processes apply, depending on where you fall in this chart.

Of most interest today is everything below the horizontal line, where we judge things to have very low safety, low or very low safety significance. And, of course, everything is going to be focusing on that lower right quadrant -- Antonios will talk about that -- where we really don't have much choice. It's in the licensing basis -- no arguments between us and the licensee in that regard -- and there must be something done. We have to change the licensing basis to make the requirement equal it or change the means by which they meet the requirement.

So, it requires prior review and approval, and, of course, RIPE will address that. I'll let Antonios talk about that.

The other quadrant, which many of you may be familiar with, if you've followed along for the last couple of years, is what's now called the very low safety significance issue, as the most important of the effort. That was Recommendation 1 out of the analysis memo, called the LISSIR. And that's where

it's something that's not clear and where we can make a judgment. If a licensee makes a determination it's not in the licensing basis, we can't make that call, or based on a reasonable amount of effort, we can't determine it's in, we can, if we work to pretend it was in, determine it's very low.

And since it's very low, why don't we just stop? Why don't we make a public document and move on? And we want that public document to be there for others to see in the future if do find something that does more to revisit it. But that's already to stop spinning our wheels, if you will, on issues like that. So, that was put into place in January 2020. It is working very well.

So, with that, I wanted to provide a larger context of where RIPE comes. It really comes from Recommendation 5 in the LISSIR memo.

And with that, I'll turn it over to Antonios, unless there's any questions from the Committee.

MR. ZOULIS: Thanks, Tim and Jen.

So, as Jen mentioned, my name is Antonios Zoulis. I'm the Branch Chief of the PRA Oversight Branch in the Division of Risk Assessment, in the Office of Nuclear Reactor Regulation. And I'm going

to be talking to you, giving you a high-level overview. Then, we have Jonathan Evans or Keith Tetter providing some more details of why we chose 50.69 and TSTF-505, and the basis for that. And then, Michelle Kichline will go into kind of more details of the process itself. And then, they'll turn it back to me.

And please ask -- I know I don't need to say this -- but ask questions as you see fit throughout the presentation. We want this to be an information exchange, and share your thoughts perhaps on the process and any ideas you may have.

So, the foundation of RIPE was established and approved by the Office Director back in January of this year. We issued the recommendation. As Tim mentioned, it's Recommendation 5 of the LISSIR effort. The Office Director approved it.

And in those two documents, you'll find, one, the guidelines that we developed for the safety impact of issues, which, essentially, is the RIPE process that the licensee can use, or is one approach to determine that an issue is of low safety significance.

And the second part of that, enclosure 2, is just what we do when we receive an application to

RIPE. How do we conduct the streamline review, if the licensee met all the requirements within the RIPE guidance?

So, all those are available publicly for folks to read and digest.

One of the things that really we kind of, when we started off with this initiative, was we wanted it to use existing regulations. We didn't want to go to rulemaking. We didn't want to go to the Commission. We wanted to, essentially, use current regulations that we have, but leverage those regulations and work that was done in other risk initiatives to be able to support a more streamlined review of issues.

So, many of you are familiar with Reg Guide 1.174, Risk-Informed Integrated Decisionmaking Principles. As you'll see later, the low safety-significant issues we define as below 1E to the minus 7. So, having a way to determine that an issue is of low safety significance, and leveraging those other risk-informed initiatives, it helps for us to inform and support a more streamlined review of those scenarios, consistent with our principles under Reg Guide 1.174 of Integrated Decisionmaking. So, it's much a risk-informed process.

Before we get into too many details, it was important for us to kind of define the box where RIPE fell. And you'll see later on that the top box was a little bit changed, as we had more interactions with the industry and public and others. So, we really didn't want to impact the inspection or enforcement.

So, RIPE does not impact or involve how a finding or a violation gets dispositioned. It more supports how the licensee and how we will correct or review the corrective action or the ways that they would address the violation or the finding. So, again, it doesn't impact the inspection, the upfront aspects of the violation or finding, but it does support how the licensee can correct those issues.

The other thing that was important, it does not change how -- the licensee still needs to make the case for the exemption or the licensee amendment. It doesn't change the validity of that request, but it does inform the level of effort that NRC staff will spend on reviewing the approval or denying the license request for the exemption.

So, because it's based on current regulations, we're not trying to change how someone makes the determination that they need to come in for

exemption or license amendment. All we're doing is, given it's a low safety-significant issue, and understanding it's a low safety-significant issue, we're going to expend the commensurate resources to review it.

And where the third item, regulations, was very important for our friends in OGC was that you can't use RIPE to displace rulemaking. You can't say, because 50.46a or a regulation is of low safety significance, we're not going to comply with that regulation. It's more designed for specific unique plant noncompliance issues or issues where a specific narrow portion of the regulation may apply for that licensee; that they may decide, well, it's not worth us correcting, or we can live with the issue. We've made some changes to the plant, some procedure change perhaps. It's good enough for us to leave it as is because the risk is so low. So, that was important for our folks in OGC.

Okay. So, again, we're going to get into more detail about RIPE, but, fundamentally, as Jen mentioned, what we're doing is we're leveraging previous risk-informed initiatives. We're saying you have demonstrated an integrated decisionmaking panel, either from a 50.69 application or an equivalent,

either from 425, and you've demonstrated a PRA of technical acceptability, of high-level technical acceptability either from a TSTF-505 application or, recently now, with 425, and with some conditions. You've demonstrated now you have a robust integrated decisionmaking process. You can use that in conjunction with our safety impact characterization process to evaluate the issue, make the determination of its low safety significance, and use that as the supporting information when you come in for us to request either the review of the exemption or the license amendment request.

And Jonathan or Keith are going to go into more detail about why we picked 50.69 in the next couple of slides and TSTF-505 initially.

Again, this is kind of like a high-level overview. The licensee needs to define the issue. It has to be evaluated using the Integrated Decisionmaking Panel, and it must be assessed with the PRA of sufficient technical acceptability. The guidance allows for provisions for risk management actions that can be taken, and you also need to assess cumulative risks similarly to what you would do under Reg Guide 1.174. So, again, it's very consistent with our process.

Once the licensee does that, they would then submit it and request a streamlined review, and we would either review or deny that approval, as we would do today, but in a more streamlined effort, again, consistent with, commensurate with the risk injuries of the issue.

MEMBER HALNON: Hey, Antonios, this is Greg Halnon.

MR. ZOULIS: Hi, Greg.

MEMBER HALNON: A quick question. Are you going to go through and contrast the streamlined process versus an older process later on or is this --

MR. ZOULIS: Yes. Yes, we are. Yes, we are. Thank you.

MEMBER HALNON: Okay. I'll hold off then. Thanks.

MR. ZOULIS: Thank you.

Again, this kind of highlights what are the NRC's action and what are the licensee's actions. So, essentially, the licensee will use the safety impact of issues guidelines to determine if the issue is of low safety significance. Once they've done that, they would submit it to the NRC for a streamlined review, and the NRC would then conduct the review using our temporary staff guidance we developed

on how we would assess that. And again, Greg, we'll go into more details later, what exactly that entails.

Jonathan, are you on? I know Jonathan had some conflicts.

MR. EVANS: Yes, I'm on.

MR. ZOULIS: Thanks, Jonathan. Go ahead.

MR. EVANS: All right. Hi, everybody.

My name is Jonathan Evans. I am a Reliability and Risk Analyst in the Division of Risk Assessment, in the Office of Nuclear Reactor Regulation, and today I'll cover Initiative 4b and, also, 10 CFR 50.69.

So, Initiative 4b, or a Technical Specification Task Force 505, allows a licensee to extend existing completion times by evaluating their plant's configuration-specific risk. In this example on the slide, an existing three-day completion time to restore inoperable subsystems could be extended up to 30 days by maintaining total plant risk below specific risk thresholds and implementing actions to manage risks associated with extended out-of-service times.

Next slide, please.

All right. So now, I'm going to talk about what the NRC staff reviews for this Technical Specification Task Force for 505. The review at the

NRC involves a multidisciplinary team and includes reviewers from various technical branches, including PI analysts as well as engineering branches, electrical, instrumentation and control, containment, as well as Technical Specification Branch.

The boxes listed above cover the scope of a PRA analyst's review. PRA technical acceptability, which is where the focus of this will be, is evaluated with broad applicability, since this amendment impacts so many different conditions.

Facts and observations, which are findings, as well as key assumptions or sources of uncertainty, will receive in-depth review for overall model impact and disposition relative to the particular finding. Therefore, using the approval of TSTF-505 or Initiative 4b for license amendments was an acceptable basis for simplifying the Risk-Informed Process for Evaluation reviews.

Next slide, please.

Okay. So, on to 10 CFR 50.69. This categorizes the safety-related and non-safety-related SSCs into subcategories based on high or low safety significance. The portion of this product that interacts with RIPE is the Integrated Decisionmaking Panel, which I will discuss on the next slide.

MEMBER DIMITRIJEVIC: Jonathan?

MR. EVANS: Uh-huh?

MEMBER DIMITRIJEVIC: Hi. This is Vesna Dimitrijevic.

You know, I was wondering, when you presented these two applications, are you presenting them as what the licensee has done previous to applying to any of the new changes under RIPE, or you're describing this as a potential RIPE application?

MR. EVANS: So, what's happening here is that, in order to validate, or I guess to use RIPE, a licensee would need to have a TSTF-505 and 50.69 license amendment in place and have it approved.

MEMBER DIMITRIJEVIC: Right.

MR. EVANS: So, that's sort of the mindset here, is that, for RIPE, if a licensee wants to use RIPE the way that it's currently set up, they would need TSTF-505 and 50.69, and that would allow them to make use of this product.

MEMBER DIMITRIJEVIC: But can they make -- so, they already have applied and approved 50.69 and the 505, for example, for --

MR. EVANS: Yes.

MEMBER DIMITRIJEVIC: -- the specific

SSCs? Or just in general?

MR. EVANS: So, they would have to have the program approved, of course, in general. However, in order to use RIPE for a particular SSC, they would need to perform the IDP for that particular SSC, but the scope would be limited. I believe that's going to be described in detail in a later slide.

Correct me, if I'm wrong, Antonios.

MR. ZOULIS: Michelle may get into it, but I think, Vesna, what you're asking is -- what we're trying to share is, when we initially came up with RIPE, we felt that these two programs demonstrated the integrated decisionmaking process through the IDP and through the PRA acceptability --

MEMBER DIMITRIJEVIC: Yes.

MR. ZOULIS: -- consistent with Reg Guide 1.174.

MEMBER DIMITRIJEVIC: Right. I completely understand that. And as I said in my introduction, you are using those for remedies --

MR. ZOULIS: Right.

MEMBER DIMITRIJEVIC: -- to prove that the license already has a valid PRA and, you know, the integrated decisionmaking process. But what I was wondering, the licensee has already applied, for

example -- so, 50.69, it's general, right? So, it's applied to all licensees, where it's applied. However, 505 can be applied to extend the completion time for different components, right?

MR. ZOULIS: Uh-hum, yes.

MEMBER DIMITRIJEVIC: So, that could apply or it can be accepted for something, and now they can apply for every component using this process? That's what I was wondering.

MR. EVANS: Oh, I see.

MEMBER DIMITRIJEVIC: If the licensees come back and apply for the different extension times for different components using this process?

MR. ZOULIS: Yes, Jonathan?

MR. EVANS: So, the way that I would probably respond to that would be in this manner: it's that TSTF-505 is a broad-scope application process. So, it has wide-reaching impacts to a number of different SSCs. So, really, the point here, at least from my standpoint, my perspective, would be that, when a licensee has a TSTF-505 that's been reviewed and approved, we know that their PRA internal events, their PRA for fires, and for some other external hazards, depending on the scope of the review, would have been captured as a part of that

review.

So, while maybe -- I don't know -- just thinking outside of the box here, if they're looking at an SSC that is potentially outside of the scope of TSTF-505, it wouldn't necessarily matter so much because, again, we've looked at their PRA and the internal events, and we've done the analysis as a part of that. So, their internal PRA would technically be acceptable for use in RIPE because of the pedigree of the review.

MEMBER DIMITRIJEVIC: Right, but you'd better give us some examples of how the RIPE is used. Right?

MR. ZOULIS: We haven't had an example, but we're going to walk through the guidance. And I think the Owners Group is going to present some potential applications that may benefit from RIPE in their presentation.

MEMBER DIMITRIJEVIC: Okay. This is what I wanted -- I saw the Owners Group has something which is a slightly different, the generic issues. But I tried to visualize how these would be applicable, in which cases. So, this is why I sort of asked if it would be applied for the new applications in those areas. But, okay.

MR. ZOULIS: And Michelle, when she goes on, may be able to share some examples.

MEMBER DIMITRIJEVIC: All right. Thank you.

MEMBER KIRCHNER: Antonios, this is Walt. May I ask a question?

MR. ZOULIS: Sure.

MEMBER KIRCHNER: Yes. On the first bullet, the second -- let's see -- no, "the conversely requires additional controls for non-safety-related SSCs." Does the licensee propose this or do you, based on some inspection or other process, determine subsequently that the licensee has to add additional controls for non-safety-related SSCs? I'm just searching for an example of how that --

MR. ZOULIS: Sure.

MEMBER KIRCHNER: -- particular case would be implemented.

MR. EVANS: So, I don't have any particular examples for you off the top of my head. What I can say is that, the way that the risk-informed safety categorization process is set up is that, again, you have your safety-related and your non-safety-related. If a licensee is doing the analysis, either the PRA or some defense-in-depth analysis

demonstrates that, hey, there is a component here that's non-safety-related; however, it falls into this higher-level criteria, then there would be additional controls that would need to be put in place. That is something that's actually put into the regulations for a licensee to follow. And, of course, it's in the guidance.

MR. ZOULIS: Yes, yes. And most probably would fall into the Maintenance Rule. So, you would have those controls under the Maintenance Rule Program, if it was a non-safety-related, but risk-significant component. So, that would still apply for that component.

MR. REED: Yes, again, to go into the Wayback Machine to 50.69, basically, what we were thinking about then was, hey, if you're going to credit something, it goes into risk, too. If your PRA shows that it's important, what's the credit you're taking in that PRA and what should be the treatment?

So, if we tried to apply treatment to that that would align with the credit you're taking for it, and that would be an enhancement to safety, as opposed to most folks were focusing only on the scope of risk, going to risk three, removal of special treatment requirements. So, that was part of our philosophy and

it's built right into the regulation.

MEMBER KIRCHNER: Thank you.

MR. EVANS: All right. Thank you.

All right. So, let's go ahead and move on to the next slide.

Okay. So now, we're going to talk about, I guess, the Integrated Decisonmaking Panel process. So, the safety significance of SSCs is determined using a robust Integrated Decisionmaking Panel process, which incorporates both risk and traditional engineering insights.

This slide shows the different elements of the categorization process. In addition to the use of the PRA on the left, there are other deterministic considerations that are listed on the right. All of the considerations are provided to the Integrated Decisionmaking Panel who makes the final determination about the safety significance of an SSC, considering all that information in a structured, documented manner.

Therefore, the Integrated Decisionmaking Panel must be comprised of highly experienced plant personnel that are knowledgeable of the plant and have collective expertise in PRA, safety analysis, plant operation, design, and systems engineering.

The strength of the review by the IDP, coupled with the technical acceptability of the PRA, is the basis for simplifying license applications using RIPE.

Are there any other questions?

(No response.)

MR. ZOULIS: So now, we'll give it to Michelle Kichline to go into a little bit more detail about the actual safety impact process.

MS. KICHLINE: All right. Thanks, Antonios and Jonathan.

And like they said, my name's Michelle Kichline, and I'm going to talk about the safety impact characterization process.

And so, this process -- I know you can't read this slide, so I'm going to break it down in the slides that follow -- but this process is conducted by the licensee. It's not the NRC that does this process.

And the purpose of this process is to integrate the results of the PRA and the IDP's review to come to a conclusion on whether or not this has minimal risk significance.

So, next slide.

So, first, the easy step, licensee has to

identify an issue that requires NRC review and is expected to have a minimal risk impact. I do want to note here that I'm using the word "minimal". You've heard us use "very low" before. I'm choosing minimal because we chose a risk threshold with core damage frequency that's an order of magnitude below what we normally call low or very low. And so, that's what "minimal" means, and I'm going to show that on another slide as well. But just in case you're curious.

So, once this license has identified an issue that an NRC review, and they think it's going to be low-risk or minimal risk, they're going to continue the process. And some of the things we think that they can use this for would be actions to address inspection findings. Again, like Antonios said, things that are within the licensing basis, but need to be resolved. These things could also be non-compliances that they've identified themselves or through some other process. These are maybe responses to orders where they need to modify the plant.

We don't allow the process to be used for immediate actions necessary for continued safe operation of the plant, such as to restore compliance with a tech spec. It's not for immediate repairs for power operation, and it's not for anything where you

can't assess the safety impact of the issue using a PRA.

So, that's why at this time we don't have anything like fuel changes, nothing for emergency planning or security, because those things would require a completely different framework that wouldn't be based on risk-informed principles using a probabilistic risk assessment.

Next slide.

So, once the safety impact has been -- sorry -- process has started with defining the issue, this part is going to be done by a subject matter expert; like Jonathan said, somebody who's really knowledgeable about the plant.

They're going to answer the preliminary screening questions, which are also on this slide. And those questions are intended to look at the more qualitative aspects that maybe aren't covered by the PRA. And so, those preliminary questions ask about if there's any impact on defense-in-depth, safety margins, fission product barriers, accident consequences, the availability of components, things like that.

And the reason it says "any impact" is just because that it's important that the Integrated

Decisionmaking Panel, if there is any impact, they want the IDP to review that impact to determine if it's going to pose an issue.

So, after SME has defined --

MEMBER KIRCHNER: Michelle, this is Walt Kirchner. Could I ask a question?

MS. KICHLINE: Sure.

MEMBER KIRCHNER: "Impact," how do you define "impact" here? Is there some threshold that you use or is it -- it can't be just any impact.

MS. KICHLINE: At this point, it's any impact.

MEMBER KIRCHNER: Any impact in any of these categories?

MS. KICHLINE: Correct. Later, once it's been reviewed by the IDP, the IDP will determine if it's minimal, using the criteria that we set up for what "minimal" means.

MEMBER KIRCHNER: Okay. So, the test comes when you apply your minimal impact or risk?

MS. KICHLINE: Yes.

MEMBER KIRCHNER: Okay.

MS. KICHLINE: Yes.

MEMBER KIRCHNER: Thank you.

MS. KICHLINE: No problem.

So, when the issue's been defined by the subject matter expert, it is then explored using either a generic or plant-specific process. If it's going to be generic, it's similar to the IDP, but it's called a Generic Assessment Expert Team, or GAET. And they would do a generic evaluation.

But, even if a generic evaluation is done, the generic evaluation is -- say this applies to a fleet of plants and they want to tell the fleet, "This is what you need to consider." Each plant right now has to do their own plant-specific evaluation using their plant-specific IDP, even if the issue is generically applicable. We're not allowing them at this point to submit things together, like several licensees that are different.

So, then, once the plant IDP -- like I said, they're going to review these preliminary questions, and then, they're going to look at the final screening questions, and they're going to determine if this impact that was identified is minimal or if there is really no adverse impact. So, no adverse means nothing negative. And if there's minimal impact, I think I have that on the next slide.

MEMBER HALNON: Hey, Michelle, this is Greg Halnon.

MS. KICHLINE: Go ahead.

MEMBER HALNON: Can you help expand a little bit on the generic assessment, too? I noticed in the guidance it was a licensee team or an NRC team. It didn't really lead me to know which was supposed to be --

MS. KICHLINE: Yes. So, that did confuse a lot of people. And so, in the revision, we are going to take out that it would be an NRC team. We originally envisioned that perhaps the NRC would have a generic issue and the NRC would want to put out generic guidance on how it would be applicable for a plant to address something that's low safety significance. And I think that causes more question than it's helpful.

MEMBER HALNON: Okay.

MS. KICHLINE: Because we already have a generic issues process. And so, we do plan to remove that and just make it so that the generic assessment would be done by industry alone.

MEMBER HALNON: Okay. So, when you say, "industry alone," is there going to be some requirements on pulling in other people from different fleets? I guess if you've got a single-unit utility that's got one plant, one technology, do they have the

expertise to look at it from a generic perspective?

MS. KICHLINE: Yes, there would be no reason for them to do that because we are making -- like I said, everyone has to submit a plant-specific evaluation. And so, it would only be beneficial to start with a generic evaluation if it was something that applied to several plants.

MR. REED: Yes, I was just going to chime in, Michelle, and to kind of go over what Greg's asking. You know, in certain circumstances -- and Antonios and I saw this back with the Risk Prioritization Initiative, where you have a group of experts in the industry. Say, EQ, for example, is a group of experts. Sometimes it make sense to get those experts together, where the plant really doesn't have it, and have those folks and an Integrated Decisionmaking Panel and a generic panel go through and get those insights. And then, they can hand it off to the plant, and then, let the IDP do the plant-specific approach. So, that's where I think it could have a lot of benefit.

MEMBER HALNON: Tim, does the industry have the infrastructure to do that or the process to pull that together? Or is it an hoc type of thing?

MR. REED: Good question. I don't know

the answer to that question.

I don't know, Antonios, do you?

MR. ZOULIS: So, I mean, I think industry issued what we call a RIPE-equivalent IDP guidance, which defines the structure of an IDP and who should be part of that team. That could the basis for either an Owners Group setting up a team or industry. I think, as Tim said, as part of the Risk Prioritization Initiative, industry -- NEI, essentially -- put up a team of experts to look at their issues.

As long as you meet the criteria and you follow the process, all you're doing in the generic assessment, essentially, is highlighting kind of, hey, this may be applicable for you. This is important; this is not important. And essentially, it's designed to inform the plant-specific IDP to help them get pointed to the right direction; look at do you meet this criteria or you don't. Maybe for you it's more important or not as important, or those are the areas.

So, it kind of, essentially, helps streamline the IDP evaluation, leveraging the work that was done by the generic assessment experts. And that's the way it was envisioned when we developed this process.

MEMBER HALNON: Okay. And I guess a more

specific question -- and whether we answer it here or we let you all go back and think about it -- is, how do you, as the NRC staff, have confidence in a generic assessment, if you're not really sure what process the industry is using to do that and who was involved with that?

MR. ZOULIS: Well, see, that's exactly the beauty, Greg, of the process. You would still need to submit your own plant-specific requests. So, we would make that determination on a case-by-case basis under each individual plant, unless there was maybe a fleet issue. You would still have to somehow make that come to us in some fashion for us to review and approve the request.

MEMBER HALNON: Okay. When a request comes in, you would be looking at it from a generic perspective as well, even though the industry has already done that, or at least the submitter has done it. To some extent, you will be looking at it from a bagel test, whether or not it's a generic issue or not. Is that fair?

MR. ZOULIS: Sure. Like, for example -- I don't want to steal the Owners Group's thunder -- but we're thinking about is there a way that we can approve something on a generic basis, and then, be

used, if it's a low safety-significant issue. And then, let each licensee then come in or do it under a 50.69 approach, or come in for a very streamlined review. So, there's different ways, but all the ways that we're thinking still require some sort of NRC review of the issue.

MEMBER HALNON: Okay. It seems a little fuzzy to me right now, Antonios, but we'll get through it and see where we're at at the end.

MR. ZOULIS: It's fuzzy for all of us. We had a vision for this process. Obviously, when you issue something like this, people have other ideas. And to be honest, they're very good ideas. We've got to just think about what's the appropriate approach to use, so we maintain safety and we also are efficient and consistent with our principles of good regulation, right, for issues that we all know -- but the bottom line is, if we really know they're low safety-significant issues, it doesn't make sense for us or industry spending unnecessary resources on them.

MEMBER HALNON: Well, I know all that. I think just more specific on the generic assessment process or team process, I think how that pans out, maybe it just needs to mature a little bit more.

MR. ZOULIS: Sure, sure.

MEMBER RICCARDELLA: This is Pete Riccardella.

It seems to me there's a lot of industry groups that could participate in this sort of -- like the Owners Groups, BWR, VIP, the MRP. There's lots of groups, I think, that could give expert advice to an individual plant.

MEMBER HALNON: Yes, I agree, because I think the experts are out there. It's a matter of how you consistently pull them into a committee or some kind of team that will give you consistent results going forward.

MEMBER RICCARDELLA: Yes.

MS. KICHLINE: Any other questions before I move on?

(No response.)

Okay. So, I think the only thing left on this slide I was going to say is that, if you started with a generic assessment, you don't get away from doing anything that you would have done before. You still have to do the plant assessment. And the plant assessment has to determine the final safety impact characterization by assessing the final screening questions, which are modified versions of these preliminary screening questions, and the final risk

results using your PRA.

And the safety impact that they're going to characterize can be a little different, depending on if it's a compliance issue or not, but, basically, the delta CDF, the change in core damage frequency between with and without this change.

Next slide, please. Thank you.

Okay. So, the plant IDP is supposed to review the issue until they have confidence that the results wouldn't change if additional information was obtained. And that doesn't mean that the PRA results wouldn't change. It just means that, if they got more information, they wouldn't say that it's more than minimal.

They also have to consider risk management actions, which they consider those for any issues where there is a minimal safety impact. If there was no adverse impacts, then they wouldn't need to consider RMAs because there's nothing to offset. But those are to look at, is there anything they could do, maybe procedurally, some type of action they could take that would reduce that small amount of risk that they did increase/raise for the plant?

The next thing that they're going to do is they're going to look at cumulative risk, and they're

going to look at that based on their plant-specific baseline core damage frequency and, also, large early release frequency, once the change has been incorporated to make sure that it stays below the guidelines in 1.174.

And then, in order for them to say that the issue has a minimal impact, it has to meet all of the criteria that are listed here, which is that the issue itself contributes less than 1E to the minus 7 to CDF. So, the change is less than 1E to the minus 7 on CDF. The change is less than 1E to the minus 8 per year on LERF. It screens to know the minimal impact using the final safety impact questions, and then, cumulative risk is acceptable. So, if all of those things are acceptable, then they can go ahead and submit -- they would quality for a RIPE streamline review because they would have said that that's the way we're asking that they kind of prove that the issue is low, is low-risk.

MEMBER RICCARDELLA: Excuse me, Michelle. This is Pete Riccardella again.

As I recall, Reg Guide 1.174 has sort of a tradeoff between actual CDF or total CDF or total LERF, and then, the delta. So, that if an issue has a small total CDF, or if the plant has a total small

CDF, then a larger delta CDF would be acceptable.

MS. KICHLINE: That's correct for --

MEMBER RICCARDELLA: Do you reflect that tradeoff at all in this?

MS. KICHLINE: No, we do not. That's correct that that's the way that 1.174 works for a risk-informed application. The only part we really refer to 1.174, for cumulative risk, which is actually -- it's a much higher number. And so, it's not going to be an issue for something that is less than 1E to the minus 7 on CDF.

MEMBER RICCARDELLA: Yes. Yes, but these deltas, then, are, as I recall, are at 1.174 sort of acceptable deltas for a relatively --

MS. KICHLINE: Yes, they're smaller.

MEMBER RICCARDELLA: -- high cumulative risk, right?

MS. KICHLINE: Yes, they're smaller than what you'd be allowed to do under 1.174.

MEMBER RICCARDELLA: Okay. All right.

MS. KICHLINE: Because of the fact that we are going to do a streamlined review where we don't do as much of a technical review of the issue because it is such low risk.

MEMBER RICCARDELLA: Okay.

MS. KICHLINE: Anything else?

(No response.)

All right. Next slide.

So, I wasn't going to go over an actual example because, unfortunately, we don't have an actual example, but I do have an example submittal, what it would look like. And so, this is what we put out as the areas that we think we would want the application to entail, which would be a detailed description of the request.

And then, we also want them to submit the results from steps 1 through 4 of the assessment, which was the steps that I've talked about, which is their Integrated Decisionmaking Panel results, the final risk results for the screening questions, their PRA results, risk management actions, and cumulative risk, and then, a conclusion on why it's minimal impact. They still have to submit the significant hazards considerations and environmental considerations that are required with submittals as well.

And then, that's all I was going to talk about. I believe, for the next slide, we're going back to Antonios, is that correct?

MR. ZOULIS: Yes, Michelle. Thanks.

Do, this is, Greg, where we kind of define what the streamlined review would look like. And it was important, when we talked to our friends in DORL, that we didn't put a sense of urgency on these requests, given that they're low safety significance. It was more important for us to focus on the resources that we would expend to review these issues.

So, as you could see, it is still a truncated timeline between a RIPE exemption and a RIPE license amendment request. And it follows the similar steps that you would take, the key steps that occur in license requests would take, but the difference here is, for the acceptance review, the technical staff will be able to review the issue and provide no technical objection to us using RIPE to disposition it.

Once they provide that no technical objection, the review would essentially go to the Division of Risk Assessment to ensure, as Michelle said, that the issue is well-captured by your PRA and your risk assessment; that the issue was well-defined and reviewed by the IDP. And as long as they meet all those checks and there is significant issues with the way the issue was evaluated, here we're really more looking for, if there were surrogates used, were they

appropriate? Was the issue well-captured by the risk assessment and the IDP?

Once those are done, essentially, then we would submit the SE input to DORL. OGC would review it, and then, it would be issued, approved within that timeframe.

So, a very limited review, essentially, by the staff, focusing more on did they use the RIPE process appropriately and is the issue well-characterized by the criteria that we developed.

MEMBER HALNON: So, Antonios, this is Greg.

The submittal itself is more focused, it seems like, on the RIPE process. I don't know if there was an issue in the evaluation of the risk, as opposed to going into explaining why it's possibly, in the licensing basis, possibly not, and all that other stuff that went on before --

MR. ZOULIS: Yes, we're not going to -- but they still need to, like I mentioned, there still has to be justification on why we're changing the license. You know, we're changing it because -- you know, whatever the amendment request or the exemption request, it has to still be based on the regulation. And as you know, Reg Guide 1.174 already allows for

that. And we're just taking it a step further and saying, well, if you do that and you show it's low safety significance, our review of it is going to be very streamlined.

MEMBER HALNON: Okay.

MR. REED: Now --

MEMBER HALNON: Oh, go ahead, Tim. I'm sorry.

MR. REED: Yes, I was just going to say, all of the issues in this for RIPE are either going to be -- all could be in the licensing basis. Even if they were already an issue in enforcement and their compliance, they're out of compliance and they need to correct it, and if RIPE is the way they're going to correct it, or they're in compliance and the licensee is seeing an issue with it, and they're choosing like, hey, I know this is not a safety; I'd like to get this resolved, for whatever reason. So, they're still in compliance, but, in that case, they're going to proceed with RIPE to see if they can resolve the issue that way, you know, if it's a lot of cost or maintenance, whatever it might be.

MEMBER HALNON: Right. Absent that cost or maintenance, or whatever the issue is, from a licensing perspective or the regulatory process, is

the industry satisfied with the savings that is going to be implemented? Have you guys had a conversation about it?

MR. ZOULIS: Well, I guess the proof's going to be in the pudding, as they say. We need to see an example, an exercise, and I think that's going to go a long way in demonstrating that we have discipline. As you know, a lot of these initiatives, the important aspect is that we stick to the intent of the initiative; that we're disciplined in the review; that if the issue is really low safety significance and they follow the process, our review should be commensurate with that low safety significance.

So, it takes -- and we mentioned this in many meetings, and public meetings as well -- it takes discipline on both the NRC and the industry side to follow these, what we've delineated here, and it meets all these criteria. We need to be able to stay true to the process and review it, maintain safety, of course, but, again, spending resources commensurate with the safety significance of the issue --

MEMBER HALNON: Okay.

MR. ZOULIS: -- not getting bogged down on too much specifics or the technical attributes of it.

MEMBER HALNON: Right. And the original

letter that Ho Nieh had -- I guess, on what? -- February 20, or whatever, mentions self-assessment. And it's self-assessment after a year of implementation of this, so that you can take a look at that and tweak it, when necessary.

MR. ZOULIS: Yes. Exactly. But I don't know the timeframe. I can't recall. I think it was more after a number of these had been exercised, I thought, because we weren't sure how many of these we were going to get, to be honest. I know there's been a lot of discussion -- maybe industry will go into it more -- circling around some issues, but we haven't -- nothing has been ripe yet for RIPE.

MEMBER HALNON: In hindsight, would the tornado missile issue have gone through this maybe for something --

MR. ZOULIS: Personally, I believe so. I think so. My view is probably, as long as it's well-captured by the risk and the PRA can support that.

MEMBER HALNON: That might be a good pilot to look at.

MR. REED: Yes, we've actually had a number of tornado missiles go through the velitzer process. And so, it was a situation there where we couldn't determine whether it was in. So, I would

imagine that, if they are in, and for any reason they need to do something, then, yes, I think it could possibly come in the RIPE also.

MEMBER HALNON: Okay. Thanks. That was a very expensive issue for the industry and the NRC, for the amount of resources put into it.

MR. ZOULIS: The example I always kind of go to is equipment qualification. I know there was a number finds that came out of Region II in that area. So, to me, if there's a piece of equipment that was at the end of life and the criteria was loop, maybe main steam line break, and the room heatup, and for some reason, that piece of equipment we can't tell whether it will meet the EQ requirements, but the risk associated with that issue could be either minus 10 or very low, could they, then, come in and RIPE that issue, essentially, and say, you know, we have a main steam line break, we have a loss of offsite power, and the probability of losing that piece of equipment is quantified and it's very low --

MEMBER HALNON: Yes, I agree.

MR. ZOULIS: -- yes, that's the example that I always go to.

MEMBER HALNON: Okay. Just a last question real quick. Is this process open? Is it

ready for a submittal?

MR. ZOULIS: We're open for business, yes. Yes.

MEMBER HALNON: Okay. Good.

MR. ZOULIS: And, I mean -- go ahead.

MEMBER DIMITRIJEVIC: Yes, I was going to also add to Greg's questions on this. Because if we here define the process will be much faster, we're guaranteed faster now, but, actually, we don't even see in the details what will be the difference in the reviews, you know, and what will guarantee these fast turnouts. So, if something is proved to have a low safety significance, does that mean that RAIs will not be issues?

MR. ZOULIS: Correct. That's correct.

MEMBER DIMITRIJEVIC: It does?

MR. ZOULIS: Yes.

MEMBER DIMITRIJEVIC: So, it will not be additional technical --

MR. ZOULIS: Correct. Yes, Vesna. Yes.

MEMBER DIMITRIJEVIC: Okay.

MR. ZOULIS: Sorry, I didn't mean to interrupt you.

But, again, I want to be very cautious. "Fast" was a dirty word to DORL. They didn't want it

to be fast. They wanted us to spend the sufficient resources, given it was a low safety-significant issue. So, you can understand the dilemma that, right? If it's low safety-significant, why are you making me rush? Initially, when I proposed RIPE, I said we should do it in 30 days, but, then, DORL came across and said, "Well, why are you making us spin our wheels so quickly for something that's very low safety-significant?" It's more important that we spend the resources, lower resources commensurate with the issue, than spin up the organization to get it out of the door that quickly.

But, you're right, there are no RAIs. Under the RIPE process, there will be no RAIs. There may be opportunities for some clarification calls, opportunities to supplement, if needed, and no technical review required, and only a DRA reviewer. So, in my opinion, a very streamlined review.

MEMBER DIMITRIJEVIC: Well, would there be something like template submittals or something like that, so we'll also reduce the paperwork?

MR. ZOULIS: NEI may talk on their presentation about that. I think they're planning to develop some templates. So, I won't steal Victoria's thunder on that, but she may get into that in her

presentation.

MEMBER DIMITRIJEVIC: Right.

MEMBER KIRCHNER: Antonios, this is Walt Kirchner. May I ask a question?

It seems to me -- maybe it's an observation, and then, it's a question -- that the second box on the upper, the schematic that's in front of us, that seems to be the point where the staff really makes a major decision or not. And then, I can see the rest of it going rather quickly.

But if you don't pass that orange second box, the acceptance review for the exemption, then, by default, does that turn the licensee back to an LAR submittal?

MR. ZOULIS: Yes, that's a great question. Yes, so, essentially, what we thought was, if it doesn't meet the RIPE for some reason, it's still a risk-informed review. We can do either a link to a 6 review, and have an integrated review team look at it, or maybe just a traditional risk-informed review. So, we wouldn't kick it out necessarily, but we want to make sure, for RIPE, though, like Vesna said, no RAIs and very clear-cut issue, well-defined. Because if we get into these, like you said, these areas where maybe it's gray or the issue is not well-defined, we don't

want the RIPE process to kind of, then, turn out to be just other regular license amendment review process, right? It's intended to be a streamlined review process, a very efficient, thorough review done in a very short time period. But we are willing to kick it back and say we have other ways to review it. It might not be a RIPE review, but it might be something of that nature.

Does that answer the question?

MEMBER KIRCHNER: Yes. And I guess it will be the proof will be in the actual submittals, the examples, but it seems to me that second box is the key one.

MR. ZOULIS: You're right. You're correct. You're very correct, yes.

MEMBER KIRCHNER: Yes, and for this to be effective.

MR. ZOULIS: That's where the discipline will take place, the discipline to ensure that, if we're okay with the issue and it's well-defined, and follows the RIPE process we've delineated, we need to be true to that process. We can't just, all of sudden, be subjective and start changing that, due to personal preference or because this issue is my issue, or this is an important issue to me, or those kind of

issues that may arise sometimes when we deal with very complex issues amongst staff.

MEMBER BROWN: Walt, are you done?

MEMBER KIRCHNER: Yes. Thank you.

MEMBER BROWN: Okay. This is Charlie Brown. Can I ask a question, please?

MR. ZOULIS: Sure. Sure. Of course, sir.

MEMBER BROWN: I'm trying to connect the dots. I presume, looking at, again, the second boxes, where we accept the review issued, and I'm trying to connect this back to your slide 10 relative to a system inoperable; restore system to inoperable status, three days normally, or -- all in red -- this risk-informed process.

If you pass the second box, that's three weeks in each of them. Oh-oh.

MR. ZOULIS: Agree you talking about his slide?

MEMBER BROWN: Yes. So, we're back to this. How does this connect to this backstop routine? Does that mean now -- let me finish my question here to make sure I understand my question. The second box is three weeks. But, to get final dispensation, it's -- I don't know -- it's 30 weeks or 20 weeks, or whatever it is. It's the last boxes. Does that mean

the plant can continue to operate with an inoperable system for two or three months, or four months?

MR. ZOULIS: So, the question is -- they're not related. Sorry. The answer is, the reason we provided this was just to give a background on TSTF-505 and the Risk-Informed Completion Program for maybe folks that weren't familiar with those two initiatives.

But RIPE only uses the PRA, the technical quality of the PRA that went to support this initiative. It's leveraging that for its process. They're unrelated. Sorry for that confusion.

MEMBER BROWN: So, they will never have more than 30 days to restore a system?

MR. ZOULIS: That's correct, the 30-day backstop is part of the RIC program, the TSTF-505 program. Now they can come in for a special amendment, as one licensee did -- and maybe Jonathan may want to jump in -- but that's separate. That's not part of the RIC program. Maybe a one-time extension, but not part of the RIC program.

MEMBER BROWN: Okay. So, if it's not an operability of the plant issue, it's the license exemption or LAR is a larger-scale issue, but of a low safety significance?

MR. ZOULIS: Correct. Yes. If it is an operability issue, then the plant needs to -- actually, you can't RIPE -- I think Michelle mentioned that -- if it's an immediate issue.

MEMBER BROWN: Okay.

MS. KICHLINE: Yes. We specifically did not allow them to use the RIPE process for tech spec changes because we already have a risk-informed tech spec change process, and we don't expect tech spec issues to be minimal safety impact.

MR. REED: But just to get it back, Tim, what Antonios' idea was, it was to take the very best IDP, because it's a qualitative assessment at issue; the very best PRA, which is 505 because it's quantitative, and based on those both being implemented and approved, you don't have to do that again. And you've got to be very confident, once you have those in place, that they're going to be able to properly characterize them. That's why we're showing 505, because 505 is a better PRA than what's required by 50.69, for example. So, this will be a very robust risk-informed process that they use. It's what we called it the "gold standard".

MEMBER BROWN: Thanks.

MEMBER DIMITRIJEVIC: Michelle said

something important from my point of view, which I didn't really get until this moment. Actually, this is not intended for risk-informed applications because risk-informed applications already have their own platforms. That's what Michelle just said, is that true?

MS. KICHLINE: Well, RIPE is kind of its own type of risk-informed application, but we have other risk-informed processes, and --

MEMBER DIMITRIJEVIC: Yes, right, the tech specs --

MS. KICHLINE: Yes.

MEMBER DIMITRIJEVIC: -- the in-service testing and --

MS. KICHLINE: This is something different from those processes. It just uses the same --

MEMBER DIMITRIJEVIC: I see. So, these processes, they go by their own using the 1.174. You have modified it, actually, by 1.174 with these smaller values.

MS. KICHLINE: Yes.

MEMBER DIMITRIJEVIC: So, okay. So, that was one of my first questions, actually, when you started, because I was wondering, can they be submitting the 505 now on the RIPE? But, actually,

you just said no. So, I understand, you know. And there was a Charlie question, too. So, basically, risk-informed applications which already have their Reg Guide are standing by themself, you know, and this is just for the different type of -- okay. All right.

MR. ZOULIS: Now, having said that, we are looking perhaps at expanding RIPE to look at maybe tech spec. But, as Michelle mentioned, we felt that, if it was in tech spec, it's probably not low safety-significant. But we're open to ideas. We're always open to expand the process. And I'll talk about a little bit, I think, later on where we're heading with that.

MEMBER DIMITRIJEVIC: And that's interesting. All right. Okay.

MR. ZOULIS: So, should we go on to the next -- sorry.

MEMBER BROWN: Can I ask one other question?

I'm trying to remember which document it was. There were two documents, one called Draft Guidance for Characterizing Safety Impact Issues, and then, NRR Temporary Staff Guidance. And they talked about how this process wouldn't be used for something like -- I guess the two that I remember, one was

replacing an existing pump with a lower-capacity pump. Or the other one was replacing a main transformer, I presume with something that was not quite the same as the original.

It said that this process was not used for variations in the plant capabilities. I presume those are tech-spec-type issues. I'm making that assumption, but I don't really know what I'm talking about from an operational standpoint.

How does those get treated? Are they LAR-type things, irregardless?

MR. ZOULIS: Michelle, do you want to take that?

MS. KICHLINE: What you're talking about, yes, they would just submit a normal license amendment request, not through RIPE. And potentially, they could risk-inform them, but some of the things we specifically said you couldn't use RIPE for were like immediate concerns, because it's not meant to be fast or it's meant to have less resources. And again, we have standard, we have good processes for emergency license amendment changes.

MR. REED: Yes, not to confuse the Committee, but that would actually start with a plant change control process and you look at the widget

you're changing out, and one of the first you could do under 50.69 is to count that you're in license amendment. And if you're in license amendment space, you may want to risk-inform it, and there may or may not be a tech spec involved. So, yes, it could be almost anything in that case.

MEMBER BROWN: Okay. You answered my question. The last I had on your viewgraph here is that the total completion time, then, is 13 weeks for an exemption, 10 weeks after you did the acceptance review, and the total time on the other one is 20 weeks. So, that's a relatively quick turnaround, I guess.

MR. ZOULIS: Yes.

MEMBER BROWN: You're going to add all these weeks up, I take it?

MR. ZOULIS: Yes.

MEMBER BROWN: The total time is expressed in the last box, is that correct?

MR. ZOULIS: Correct. That's right.

MEMBER BROWN: Okay.

MR. ZOULIS: It's still a truncated timeline, but it's not 30 days, which I would call expedited, 30 days.

MEMBER BROWN: Okay. I know we've got two

presentations from industry. I presume they'll comment on whether they view this as a positive thing or not?

MR. ZOULIS: Sure. Hopefully, we'll hear from them soon.

MEMBER BROWN: Okay.

MR. ZOULIS: So, let me go through a couple of slides I have left.

So, I just wanted really, what was the purpose of RIPE? RIPE was essentially intended to focus NRC and licensing resources on low safety-significant issues. It benefits both us, the licensees, and the public, if we do that. And it also addresses these low safety-significant issues in an efficient particular manner which is consistent with our principles of good regulation.

It also leverages our existing regulations and uses risk insights. And one of the things that I felt was, if we can show another benefit of using the PRA, and a high-quality PRA would incentive licensees to develop or implement some of these risk-informed initiatives, or at least enhance their PRAs and enhance their integrated decisionmaking processes.

So, what's next? Right now, we're very close to issuing guidance for expansion of RIPE to

include TSTF-425. Industry has developed some guidance that's out there that's available to NEI members. We're in the process of developing our guidance to match that, guidance to be able to use TSTF-425 with some caveats and conditions.

We've also kind of said, if you can demonstrate a RIPE-equivalent IDP -- for example, if you have a 425 IDP and you ensure that your IDP has the management, the composition, and the staff being the appropriate staffing, you could use that guidance, and it would be a RIPE-equivalent IDP and you can use that in lieu of having a 50.69 IDP.

The other, as we mentioned before, EP and security are other areas that we think may benefit from at least a structure probably. I think one of the reasons Vesna was interested in RIPE was that it's a structured process that you can use to determine something is low safety significant. I think there are elements in that process that you can adopt for EP and security and just inform it with other information to help you get to maybe the similar conclusion.

So, I think that's really the power of the RIPE process, to show a systematic, structured way, using a multidisciplinary team, to evaluate an issue, and to determine its safety significance.

And we're continuing to do outreach to interested parties like yourself. We always like to do that. If you have any questions, contact Tim Reed.

(Laughter.)

But, other than that -- I don't know if Tim likes that joke. I keep doing it after every presentation.

MR. REED: Yes, scratch my name off that.

(Laughter.)

MR. ZOULIS: So, if there aren't any other questions, should we go to the industry's presentation, NEI or the PWR Owners Group? I don't know who would want to go first, but is the Committee okay with that?

MEMBER DIMITRIJEVIC: Absolutely. Yes, since there are no more questions, we can speak to the industry representatives.

Who is planning to go first on this?

MR. ZOULIS: I guess I'm going to pick Victoria. Let me pick Victoria and let her go first.

Victoria, are you available?

MS. ANDERSON: Yes, I can get it going. All right.

So, I'm Victoria Anderson with NEI. I'm a topical advisor for Risk and Engineering, and I'm

going to be talking about industry perspectives and progress on the risk-informed process for evaluation.

So, next slide, please.

I'll talk a little bit about our general perspective on RIPE, and I'll go into a little more detail on what our efforts on RIPE implementation have entailed, including work with potential first movers; work to expand the scope of applicability of RIPE to more plants; our development of supporting documents, and, also, go over our next steps.

So, next slide, please.

We really appreciate the innovative concept from the NRC. This gives licensees the potential to leverage our existing analysis and PRA infrastructure to streamline decisionmaking. I think, as you heard from the staff, it relies on previous NRC staff evaluation and already completed PRA analysis. It does offer licensees an option for more rapid resolution of emerging issues if their existing analyses support a RIPE approach.

There was a question that just came up a few minutes ago of whether or not we believe that this improvement delivered by RIPE is positive or not. I think we see most of the benefit as being in reduction of NRC staff resources used, but also do appreciate

the schedule benefit and believe that that could be beneficial as well.

We really see this overall as a prime example of progress on modern risk-informed regulation; and also, see the use of the Integrated Decisionmaking Panel as a positive development, as it supports a streamlined review and helps eliminate duplication of efforts.

I think, as Vesna mentioned earlier, traditional risk-informed exemptions and license amendments can still continue since RIPE is not suitable for all issues. So, RIPE is not a specific risk-informed license amendment request in the way that we consider it, but it is another tool in the toolbox for NRC and licensees.

Next slide, please.

So, as has been noted a couple of times during this meeting, we don't yet have any uses of RIPE. It has been available to licensees with approved TSTF-505 programs since late 2020. That means, starting in late 2020, it was available to somewhere between 12 and 14 sites.

We've been discussing potential RIPE uses with licensees who do have approved TSTF-505 programs. We've identified a couple of potential uses. So far,

all of the other cases were resolved by other means, but we are still having regular discussions with eligible licensees to discuss these possibilities regularly.

I think, as was referenced at the end of the last presentation, we're looking at the potential to use TSTF-425 to support RIPE evaluations. So that PRA evaluations that have PRA technical adequacy that was done to support a TSTF-425 application could be used for a RIPE submittal. And that would make this available to more licensees for use. I'll go into what that is in the next slide, please.

So, as you can see here, we sort of plotted the adoption rate of TSTF-425 versus TSTF-505 plus 50.69. And as you can see, if you break down my number of units, at the end of last year, less than 20 percent of units would be able to use the RIPE process. If you expand it to licensees that have an approved TSTF-425 program as a basis for the PRA technical adequacy for entry into RIPE, you're currently right not almost at 100 percent. There is only one operating licensee that does not have an approved TSTF-425 program, and they have just recently turned in their application. So, you're essentially at 100 percent of licensees that would be able to use

this program when TSTF-425 could be used as the PRA technical adequacy basis.

If you look at sort of where you reach a plateau of the percentage of units that could use this process, if you remained relied on TSTF-505, you're looking at about 50 percent, based on current projections for intended applications.

MEMBER DIMITRIJEVIC: Victoria, just for curiosity, because you have grouped 505 and 50.69 together, is there 50.69 applications which didn't use 505?

MS. ANDERSON: Yes, there are licensees that have just 50.69 and do not have TSTF-505.

MEMBER DIMITRIJEVIC: Okay. All right. Thanks.

MS. ANDERSON: All right. So, I want to talk a little bit about why the industry believes that it's sufficient to use TSTF-425 as the technical basis for PRA technical adequacy. So, as we look through the various applications and we go through this table, I think we had mentioned before in this meeting that TSTF-505 is really the highest level of PRA rigor expected for any kind of risk-informed application we have right now. For internal events PRA, you need to meet Capability Category 2 of the PRA standard; the

same for an internal fire PRA. For external hazards PRA, it's site-specific, but it's the highest level of PRA technical adequacy is expected for that application. If you look at 425, you also need Capability Category 2 for internal events, but for internal fire and external hazards, you could use qualitative or bounding.

Looking at RIPE, it seemed to us that Capability Category 1, basically screening, would be sufficient technical acceptability for an internal events PRA, and that qualitative, or possibly not applicable for external fire and external hazards, would serve as a standard for the RIPE program. So, our perspective was that TSTF-425 would be a sufficient PRA technical adequacy basis for pursuing a RIPE application.

I'll just stop and see if there are any questions there, because there's definitely a lot of information and data on that slide.

(No response.)

Okay. So, if there aren't any questions, I'll move to the next slide, which is the industry document development and support.

As was noted previously, we issued some guidance in April, NEI 21-01, that gives information

on implementation of RIPE. It documents the Integrated Decisionmaking Panel process and expectation. So, that's sort of where that 50.69-equivalent IDP that was mentioned earlier comes into play. And it also describes the necessary PRA technical adequacy documentation for submittals, either by referencing an approved TSTF-505 application or an approved TSTF-425 application with additional information provided about the PRA technical adequacy and the scope of PRA evaluation that is relevant to the issue RIPE is being used for.

I think there was a question before if we were looking at using templates, and we do have a template available. It is an appendix to NEI 06-02, License Amendment Request Submittals. And we're continuing to interface with the NRC staff to ensure adequate support for RIPE.

MEMBER HALNON: Victoria, this is Greg Halnon.

MS. ANDERSON: Yes?

MEMBER HALNON: Does this document detail out the Generic Assessment Team?

MS. ANDERSON: NEI 21-01?

MEMBER HALNON: Yes.

MS. ANDERSON: Yes.

MEMBER HALNON: Could we just go into a little detail on how that's assembled and how it works? Is it part of the Integrated Decisionmaking Panel or is it prior to, or how does that work?

MS. ANDERSON: Yes, it's prior to. So, that's sort of looking at something from a broader perspective, and then, that would feed into the IDP, if relevant.

MEMBER HALNON: How is it assembled?

MS. ANDERSON: I would have to go back and look. I don't think we went into great detail about how it was assembled. We didn't really foresee that being a substantial part of how RIPE would be implemented. We see it as being more plant-specific in its use.

MEMBER HALNON: Okay. The reason I ask, and this is why I am questioning and I asked you about the tornado missile issue. That turned into be a very generic issue amongst many plants, costing millions of dollars and lots of time on both the staff and the licensee perspective, in addition to the regulatory turmoil that we had because of it. And that translated to other utilities because of kind of an evolving generic issue as opposed to one that was actually determined to be low significance, and people

had to look at it. It eventually got there, but it really took a lot of effort to get that characterized.

I was curious, if the tornado missile issue was one of those that could have gone through this process, how that would have made it into the generic space. And to me, other than the individual NRC inspections and an inspector calling it out, this Generic Assessment Team seems like the mechanism to get it there in the generic space. So that if it's not well-defined, either on the NRC or the licensee side, then I'm just wondering how that would work out. So, it might be something to go back and look at. Just work with the NRC to make sure that it's understood and well-defined.

MS. ANDERSON: Yes, we can definitely do that. I think we left it sort of intentionally vague and said that it should include experts and individuals knowledgeable of relevant phenomenon and that kind of thing. It's sort of hard to predict what you would need to have versus for the plant-specific IDP, where you can say you need to have specific personnel from the site.

MEMBER HALNON: Right. In the absence of any process that is consistent, you're going to leave it to what we have called "inspection creep," and

sometimes getting it; sometimes not; maybe a year later; maybe not at all. And that's what I'm concerned about.

MS. ANDERSON: Yes, I think that's a fair concern. So, we'll make sure that we take a look at that.

All right. Any other questions?

(No response.)

All right. So, the final slide is next steps that we're looking at. We're looking to NRC to update their Temporary Staff Guidance to reflect what we've given them in NEI 21-01. We'll continue integrating feedback that we get from NRC and other sources into guidance and templates, and we'll continue to interface with licensees to identify a lead use of RIPE.

That's all I have for today. If there are any other questions, I'll take them. If not, I'll turn it back to the staff.

MR. ZOULIS: Thanks, Victoria.

I guess now Roy Linthicum will present.

MR. LINTHICUM: Thanks, Antonios. Have you got my slides?

MR. ZOULIS: Yes, I do.

MR. LINTHICUM: All right. Thank you.

Good morning.

This is Roy Linthicum. I'm Chairman of the Risk Management Committee for the PWR Owners Group, and I'm going to go down a little bit different path. In the Owners Group, we're working to see if we can actually expand the RIPE concept to deal with more generic issues.

Next slide, please.

Of course, as Victoria mentioned, from an Owners Group perspective, similar to NEI and the rest of the industry, we do think that the current process that's been developed for RIPE is a significant step forward on risk-informed decisionmaking. It really does help focus both the industry and NRC resources appropriately on issues that are safety-significant. We do think, though, that it can be expanded for further support/reduction of resources on low-significant issues, and we can do that by dealing with some issues on a more generic basis.

Next slide, please.

So, what we would like to do, working with the staff, is to develop a process where we can leverage the RIPE concepts for expedited review of generic issues of low-risk significance; maximize the applicability of these generic evaluations. And to do

that, we believe we can use bounding risk calculations to demonstrate the low safety significance, so we can get the expedited NRC review and focus that burden. And we would want to do that rather than have to use plant-specific PRAs specific for the submittal.

We do have a specific issue we're dealing with, and I'll go into that in a little more detail because I think examples always help. That's a main steam line break which requires an asymmetric cooling of Westinghouse PWRs. And we are looking to see if there are other suitable examples that we can deal with on a generic basis.

And like I said, we do believe PRA adequacy for some issues, obviously not all, can be addressed via bounding assumptions and use of a Generic Assessment Team, that can then be confirmed for plant-specific applicability and possibly replace the use of a plant-specific IDP.

MEMBER HALNON: Hey, Roy, this is Greg Halnon.

You're using the term "expedited review" and the NRC used "streamlined review". Are you guys on the same page there?

MR. LINTHICUM: I would say yes, the difference being if we end up -- we're ending up

getting a little bit ahead -- but if we end up going down a risk-informed review of Topical Reports, expediting those reviews would actually be part of a streamlined process, because we start right now on topical reviews on a two-year review period, and that could be a very long time. So, we would like to both reduce that, but also reduce that timeframe significantly as well.

MEMBER HALNON: All right. Thanks.

MR. LINTHICUM: Yes.

Next slide, please.

So, the example that we're using -- and this is a real issue that we're dealing with now within the Owners Group. It relates to asymmetric natural cooldown. In this particular case, if you have a main steam line break and a faulted steam generator which is unisolated, so you're cooling down with a steam generator isolated from the feed side, you can challenge your offsite dose limits for Westinghouse plants.

In order to deal with this, under the current design basis, we do need to make significant EOP changes to focus on rapidly cooling down the plant to eliminate the calculated dose. I will mention that more rapid cooldown does pose additional operator

challenges. You're starting from what would be a fairly stable plant and working on cooling it down. So, you need to be concerned about, are you drawing a bubble in the head; are you possibly putting nitrogen into the system, and a lot of other errors that could happen during that rapid cooldown that could challenge the path and actually increase the frequency of going to core damage. And you're doing this to address what we believe is generically a non- or very low risk-significant scenario.

Next slide, please.

So, as to the specific conditions we're dealing with, you have a faulted steam generator that's a main steam line break, and the MSIV fails to close. Concurrent with that, you have the loss of offsite power event. Also, you're operating at your maximum tech-spec-allowed fuel leakage, and you're operating at your maximum allowed primary to secondary leakage rates. So, you need to have all of these conditions occur simultaneously in order to challenge your offsite dose calculations.

So, the assumptions that we would have going into a generic evaluation are, even though it doesn't go to core damage, we would assume, if you have all those conditions simultaneously, you're still

going to core damage. And that, we think, is a very conservative assumption. The plant is still in a safe and stable state with your normal cooldown going on, but the rapid asymmetric cooldown does limit the total offsite dose. But, once again, it can provide additional operational challenges.

Next slide, please.

So, when we started putting this together, and we were thinking we can evaluate this using a Generic Team as a replacement for the IDP, from a generic evaluation perspective, the types of things we want to look at are: what is the generic initiating event frequency that we would use to demonstrate that low-risk significance? We want to make sure that anyone that's using this does not allow fuel damage associated with a main steam line break. We need to recognize what the bounding single failure is. We do know not every plant's bounding single failure is the same across the Westinghouse fleet. We need to look at your fuel leakage history, primary to secondary leakage history; identify the conservatisms that already exist in the offsite dose calculations, and then, also identify what would a plant need to confirm for plant-specific applicability.

Next slide, please.

So, what we're looking to see if we can do, once again, it's, can we use a generic bounding analysis, most likely in the form of a Topical Report, to determine safety significance? We'd like to be able to use the Generic Team to replace the plant-specific IDP requirements. And as we expand the concept, if we can demonstrate that it's of very low risk significance, once we're in the streamline for expedited NRC review of the Topical Report, it would go a long way.

We are still working through and having discussions with the staff. We do think when you have a risk-informed review of the Topical Report, then plants can implement those changes via the 50.59 process, not necessarily make a submittal. But the staff would have an SE associated with the Topical Report.

As an alternative path for some issues, it may be possible to have a plant submit the Topical Report as part of a plant-specific submittal. We're still working out the details of what makes the most sense from a generic perspective, and that's the type of things we want to continue to work with the staff on at this point.

MEMBER DIMITRIJEVIC: So, you have not

assembled yet the GAET, the Generic --

MR. LINTHICUM: No, we haven't yet. We haven't that yet. I mean, part of our plan -- and we're just getting this kicked off -- is to determine what would be required from a generic team.

Like I say, for this particular issue --

MEMBER DIMITRIJEVIC: It's that that team would be on the Owners Group level, right?

MR. LINTHICUM: Correct. Yes, it would be on the Owners Group level.

MEMBER DIMITRIJEVIC: Okay.

MR. LINTHICUM: Like I say, for this particular issue, we know we would need to have people with an operations background, a risk background, a safety analysis background, an offsite dose background. So, I mean, for the specific issue, we want to make sure we would bring in the right expertise to be able to deal with the issues.

Now the challenge is, how do you convert that into a generic guidance that can cover all issues? But that can be accomplished, since we've done that for other initiatives as well.

MEMBER DIMITRIJEVIC: Understood. And you have done some preliminary, obviously, calculations to see that that will fall in the low safety

significance, right?

MR. LINTHICUM: Yes, yes, yes. Yes, we're well below the -- like I say, if we assume this condition goes to core damage, we're well below the 1E to the minus 7 CDF criteria that the NRC has for the current process. And once again, that's not even actually going to core damage. You're in a safe and stable condition.

We do recognize, like I said, we're dealing with offsite dose, not core damage in this case. But you're not going to have a very significant -- you know, you're not going to exceed, most likely not going to exceed the offsite dose limits by a lot for this very low frequency event.

MEMBER DIMITRIJEVIC: All right.

MR. LINTHICUM: So, that's all I have, unless you have any questions. I would say we have started some preliminary discussions with the staff and gotten some good feedback from Antonios and the people working with Antonios, and we are looking forward to those continued interactions as well.

MEMBER HALNON: Hey, Roy, this is Greg Halnon.

Is the BWR -- oh, that's right, the two Owners Groups are together, right? So, you're

covering both Bs and Ps?

MR. LINTHICUM: Well, I mean, we are inviting the PWRs to participate, and depending on what the other issue is, we'll have the BWRs Owners Group as well. This particular issue that happened to be going on was actually initially identified in some inspection reports as something that's challenging the offsite dose limits for a couple of plants already. It's a really a PWR-specific issue, which is why we're dealing with this.

MEMBER HALNON: Okay, but you're talking to the Bs?

MR. LINTHICUM: Yes, yes.

MEMBER HALNON: Okay.

MR. LINTHICUM: Yes.

MEMBER DIMITRIJEVIC: Roy, can you identify any -- do you have some initial issue you guys considered that would be applicable for that -- like Greg mentioned earlier, tornado missiles -- or anything else which is going on in the industry?

MR. LINTHICUM: Well, as Victoria mentioned, I'm aware of a couple of other plant-specific issues that were resolved through other means, though RIPE was definitely being considered. It is a little challenging, given the fairly low

criteria, to identify something that fits into that narrow range of applicability. But we are continuing to look to see if there are other generic issues that we can look at as well, but we have not at this point identified any specific issue.

I will say, I think I go back to what Tim Reed says on the tornado missile evaluations, or not -- yes, tornado missile evaluations. I think it depends on if it was or was not clearly in the licensing basis. So, for some plants, I think RIPE could have saved us a lot of time and resources, had that been available at the time. And I would even argue, potentially, GSI-191 may have been an issue. We spent a lot of time and money on a generic basis and ended up pretty much concluding it was of low safety significance, but did a lot of deterministic work to support that and millions of dollars spent on that issue that really didn't provide any significant benefit.

MEMBER DIMITRIJEVIC: Thanks. That's interesting.

Okay. Then, we have concluded the presentation with this, right? So now, we're just going to open for discussion.

I am especially curious from the last

discussion, this has a limited application, and Victoria talked how to expand this to plants beyond the 505, and if we extend it to 425, then all operating plants would be involved, almost all.

So now, my question is, do we think about extending some basic principles beyond the operating plants or beyond the plants which are for design certification, for the plants which are licensed under 10 CFR 52, or even for the future 53 applications? Because the reduction in the regulatory burden and the streamlining process for this issue is, obviously, interesting for everybody, right? That's the basic risk-informed process.

So, I was just curious, what are you thinking about future application and extending this? Are you working on anything else in this moment?

MR. ZOULIS: So, yes. So, right now, Vesna, we're looking at expanding it to include Part 52 sites, especially given the fact that some, they're required to have a PRA of sufficient quality, which is essentially what RIPE is driving to, is to demonstrate you have a PRA of sufficient quality. And so, therefore, you should be able to leverage that PRA to disposition issues that low safety-significant.

The other aspect is having an Integrated

Decisionmaking Panel. With the RIPE guidance developed, the RIPE-equivalent IDP developed by industry, that could also be used to leverage a team that could follow the guidance and demonstrate that you have the integrated decisionmaking process.

So, right now, it is still the early stage. We need to talk it over with the working group that would meet tomorrow to kind of talk over what the working group's thoughts are and get a little bit more input. But we're heading to kind of expand it for Part 52 plants after they get their licenses, I believe. I'm not sure as part of the licensing process; I don't know about that, but maybe to use it after they're licensed and operational.

MR. REED: Also, to chime in a little bit, I agree with everything that Antonios said, but keep in mind -- and then, by the way, I agree with you completely, Roy, on the soft issue. But you've got to keep in mind that RIPE has to be something that's truly plant-specific. Folks, I did rulemaking for 25 years, and you can't get around rulemaking by using this process. In other words, if we start to do something generically -- let's say, for example, long-term cooling for a blockage, and we say, hey, it doesn't matter, and we just want to say give everybody

RIPE, what you're doing is rulemaking. And you're doing rulemaking outside the Administrative Procedure Act. You don't want to go there. You're put in the Commission in a bad place there. So, we've got to be careful how that we do it.

And I say that with regard to, like the AP1000, that was very, very low risk, as this Committee is well aware. And so, we've got to be careful about that and make sure it's truly plant-specific; it's one specific issue at a time, and not something generic, where we're really kind of going in the back door around rulemaking, for example.

MR. ZOULIS: Yes, and as far as Part 53, again, the same issues would apply. I'm not sure how you would be able to use RIPE in that area, but --

MEMBER DIMITRIJEVIC: It could be called something else. I was just thinking the basic principles, if you want to extend the review on the risk significance, you know, that's -- especially when we are having much safer plants applying. So, this was my thinking, you know. Everybody's expecting that -- yes, but I understand your limitation at this moment, and they're different, and the ambitions are different. But, in the long run, they can expand to something much bigger, hopefully.

So, my other question is, you have actually modified Reg Guide 1.174. And Pete had a question on that, and he was right. I mean, currently, 1.174 allows you whatever delta CDF of 10 to the minus 6. Independently of your CDF, you can use that for risk-informed applications, right? So, you have introduced these measures which define low safety significance. So, is there a plan to introduce this in the Reg Guide 1.174 as an addition, or no? And you don't plan to discuss that in the next level?

MR. ZOULIS: No.

MEMBER DIMITRIJEVIC: Okay. All right. Thank you.

So, Members, any questions we have for our panel maybe?

MEMBER KIRCHNER: I think we have a hand up in the audience there.

MEMBER DIMITRIJEVIC: Okay.

MEMBER KIRCHNER: Mike Franovich.

MR. FRANOVICH: Yes. This is Mike Franovich. I'm the Director of the Division of Risk Assessment in NRR.

And if I could just take a moment to talk about application or consideration in the new reactor space, it's an intriguing question. And when I look

at Part 53, in particular, you'll see some common elements of what in these core programs that we're talking about. I call them the advanced risk management programs, 425, 505, and 50.69. Central to them is the IDP concept, which we've gone through pretty thoroughly. But when you look over at the Licensing Modernization Project, again, the IDP concept shows up there as well, and the whole notion of how you go through binning, whether a component or SSC is safety-related or non-safety-related, it's a derivative of 50.69.

There's a lot of cross-themes in these areas that we should probably keep in mind when we look into the Part 53 work. Is there something here that we're doing today in the operating fleet that could benefit there? For example, the Facility Safety Program, which the staff has come back and spoken with the ACRS, I was not involved directly with this. But if there are elements of that program that bring in these kinds of concepts for risk management into the program, why should we limit ourselves? Why not think about how that could benefit any future regulatory oversight or exchange or licensing actions for a plant that's operational under Part 53?

So, just wanted to share that perspective

with the Committee.

MR. REED: Yes, Mike, I was going to say something similar. And I was going to say, if you're really smart about the way you do it from the get-go in terms of the requirements and the supporting infrastructure, it's obviously very challenging to do this, but you can avoid the circumstances where you get, basically, the regulations and the supporting infrastructure driving into the situation where you have, clearly, a compliance with issues that are, obviously, either minimal or even low safety-significant. So, hopefully, when we structure Part 53, we can at least mitigate that to some extent and avoid this from the get-go.

MEMBER DIMITRIJEVIC: And to minimize the need for exemptions, exactly what -- we are trying to have a modern framework which would fit the new designs.

MEMBER KIRCHNER: Yes, Vesna, this is Walt.

Mike got to it before I could find my unmute. But the Facility Safety Program as outlined so far in 10 CFR 53 seems to have a lot in common with this process that they've shared with us today.

MEMBER DIMITRIJEVIC: Right. Yes, and we

could look at that from that perspective. Okay.

DR. SCHULTZ: Vesna, this is Steve Schultz.

MEMBER DIMITRIJEVIC: Oh, okay. Hi, Steve.

DR. SCHULTZ: I would just like to make a comment or perhaps turn it into a question. But I'm going back, Antonios, to your comment that management in the Division at first said this could be problem with the tight schedule and putting emphasis on that tight schedule could, in fact, redirect our resources. I think to get an appropriate balance in resources, the communication and the coordination with industry here is very important.

You can imagine, if 20 plants come in with a RIPE submittal, that's going to take a lot of safety resources out of the risk program. And it's much better if industry can come in with what has been described here by Roy as an approach that is fairly simply determined, and then, plants and the staff review can be simplified accordingly. I think that's just very important in the application of the overall process, as it moves forward, for it to be successful.

MR. ZOULIS: Yes. No, I agree, Steve. I was going to mention I think doing some sort of

streamlined review of the Topical Report, or some other way of ripening this generic process, and then, allowing licensees to use it, is something that we should probably think about more. And I think, like you said, it's beneficial.

And I didn't even think of that point. You're absolutely right, you're actually diverting resources now, when you get 30 of these or so many of these in, and that's a great point you can think about. So, no, thanks for that.

MR. REED: I'd also add, Antonios, we are flexible. I mean, there can be circumstances, as you know, where we can get RIPE to do something we actually do need in a short period of time, and we could do that. And maybe it's a critical path or something. So, I mean, we are flexible. Obviously, I think we're not saying one size fits all here. But, as Roy mentioned, it's typically two years, and you're going to come down -- it's going to be a shorter review, no matter what, I think. But, in some cases, we might want to go faster. But, like you said, if we have a lot of these, and we're now reprioritizing the staff's attention on those, well, we're generally distracting the staff. So, we've got to be careful, too.

MEMBER HALNON: This is Greg Halnon. Just a couple of questions, maybe for you, Tim.

If you could just address, just real briefly, the training that you're giving to the DORL staff and possibly even the inspectors; and also, the coordination of the 50.59 effort? That was mentioned early on, too.

MR. REED: Actually, our RIPE training, Antonio, do you want to talk --

MR. ZOULIS: Well, we've done a lot of outreach as part of this process, as you can imagine, introducing it. We had a number of townhalls early on with inspectors and licensing folks. Then, we had follow-on townhalls with the Regions, and we're going to plan for another one. I think Phil is probably in. McKenna is going to present again to Region I.

We also did branch-specific interactions in DORL with the different branches to kind of, again, share the process, help them understand what we're trying to do. And we also had interaction with the technical branches to help them, again, understand what we're trying to do here with RIPE.

As part of the 50.59 evaluation, I think that's something we're thinking about talking maybe in the future about, perhaps somehow, because I think

we've realized there could be ways you can use risk insights for 50.59, but if you really want it to be more risk-informed, you'll probably have to do rulemaking in some fashion.

But, again, we're open. I think we're going to talk about that. We have a planned meeting with the Owners Group and others: what's the future of risk-informed initiatives? And I think we might touch on that aspect of it.

MR. REED: Yes. Okay. Yes, I was just going to say, in terms of 50.59, Greg, you know, Phil was part of the analysis; McKenna was part of the analysis, and obviously, I was part of it. But we were also both part of that 50.59 effort, in terms of the putting the I&C together. So, we do have that cross-fertilization.

And by the way, we did a lot of outreach, and to Phil's credit, Phil did a lot of the work, and I helped him a little bit, but really through the Regions to get them familiar with it, and hopefully, implementing that process. So, a lot of outreach there.

But, to date, we haven't gotten one of these RIPEs, but, also, when we get them, when the rubber really hits the road, it will be interesting

to see and we can use those lessons and roll them downstream to any training we would like, too.

MEMBER HALNON: Great. Thanks, Tim. Thanks, Antonios.

MEMBER DIMITRIJEVIC: Okay. Any more questions from the Committee?

(No response.)

Okay. Hearing none, should we see if there are questions from the public?

CHAIRMAN SUNSERI: Yes, go ahead, Vesna.

So, Thomas, could you open the public line for comments?

MR. DASHIELL: The public bridge line is open for comments.

CHAIRMAN SUNSERI: Thank you.

MEMBER DIMITRIJEVIC: If anybody from the public wishes to make a comment, please do.

(No response.)

All right. The 30-second rule, hearing none, I would like to thank our presenters for the wonderful presentation and interesting discussion, and finishing everything on time. Perfect.

And so, we can adjourn now for lunch. Thank you so much.

MR. ZOULIS: Thank you, Vesna, for the

opportunity. We appreciate it. Thank you to the Committee members as well and everyone. Thanks. Thank you.

MEMBER KIRCHNER: Yes, thank you on behalf of the Committee. It was a good presentation. I think we learned a lot, and we look forward to seeing more, as this continues to develop.

So, Members, we are at our lunch hour here a little early. Anything before we break for lunch from anybody?

(No response.)

So, what we'll do is we'll take a lunch break here. At two o'clock, we will come back into session. It will be open session, and we will continue with review of our Bylaws. And an updated copy was sent out to your emails yesterday and you should have received that.

So, anyway, we are recessed until two o'clock Eastern. Thank you.

(Whereupon, at 12:56 p.m., the foregoing matter went off the record.)

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ACRS Full Committee Meeting Agenda

Risk-Informed Process for Evaluations (RIPE)

June 2, 2021, 11:15AM to 01:00PM

Time	***Topic***	***Speaker***
11:15am	Welcome and Introduction	NRC – 5 mins
	NRC Presentation on RIPE	NRC – 40 mins
	Industry Presentation and/or comments	Industry – 45 mins
	NRC and Industry Discussion	NRC & Industry – 15 mins
1:00pm	Adjourn Meeting	

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VENTURE STUDIO

Risk-informed Process for Evaluations

Tim Reed, NRR/DORL
Antonios M. Zoulis, NRR/DRA

A Map of the Universe of Findings

High safety

Not clearly within the licensing basis

Evaluate issue to determine regulatory actions with tools such as:

- 50.54(f) or generic communication
- Backfitting
- Generic issue process
- Use LIC-504 and TIA as applicable

Clearly within the licensing basis

Address issue with appropriate tools such as:

- Enforcement
- Order
- Inspect licensee corrective actions

Address issues in this quadrant

Not clearly within the licensing basis but clearly low safety significance

EXIT:

- Document decision
- Make public record

Clearly within the licensing basis

Address finding/violation with appropriate tools (i.e., either the licensee comes into compliance or proposes changes to the licensing basis):

- Inspect licensee corrective actions (e.g., 50.59, PI&R)
- Change the licensing basis (LAR, relief, exemptions, etc.)
- Assess adequacy of the requirement (i.e., rulemaking)

Low safety

Risk-informed Process for Evaluations (RIPE)

- RIPE establishes a more efficient process to review licensing actions that address low safety significance (LSS) issues within the licensing basis.
- Adoption of RIPE was recommended in a memo to the NRR Office Director dated January 5, 2021 (ML20261H428).
  - Enclosure 1 - Guidelines for Characterizing the Safety Impact of Issues (ML20261H462)
  - Enclosure 2 - Temporary Staff Guidance TSG-DORL-2021-01 (ML20261H473)
- The NRR Office Director approved RIPE by memo dated January 7, 2021 (ML21006A324).

RIPE (Cont.)

- RIPE can be used to address low risk significant licensing actions using existing regulations under 10 Code of Federal Regulations (CFR) 50.12 or 50.90
- RIPE leverages current regulations and risk-informed initiatives to allow licensees to request plant-specific exemptions or license amendments for LSS issues using a streamlined NRC review process.
- Consistent with our RG 1.174 risk-informed integrated decision-making principles

What is RIPE?

Inspection/Enforcement

Does not involve inspection and enforcement of findings and violations.

Does support how those violations and findings are corrected.

Evaluation

Does not change how licensees make the determination concerning validity of licensing request.

Does inform the level-of-effort NRC staff will expend to conduct review and approval/denial of license requests.

Regulations

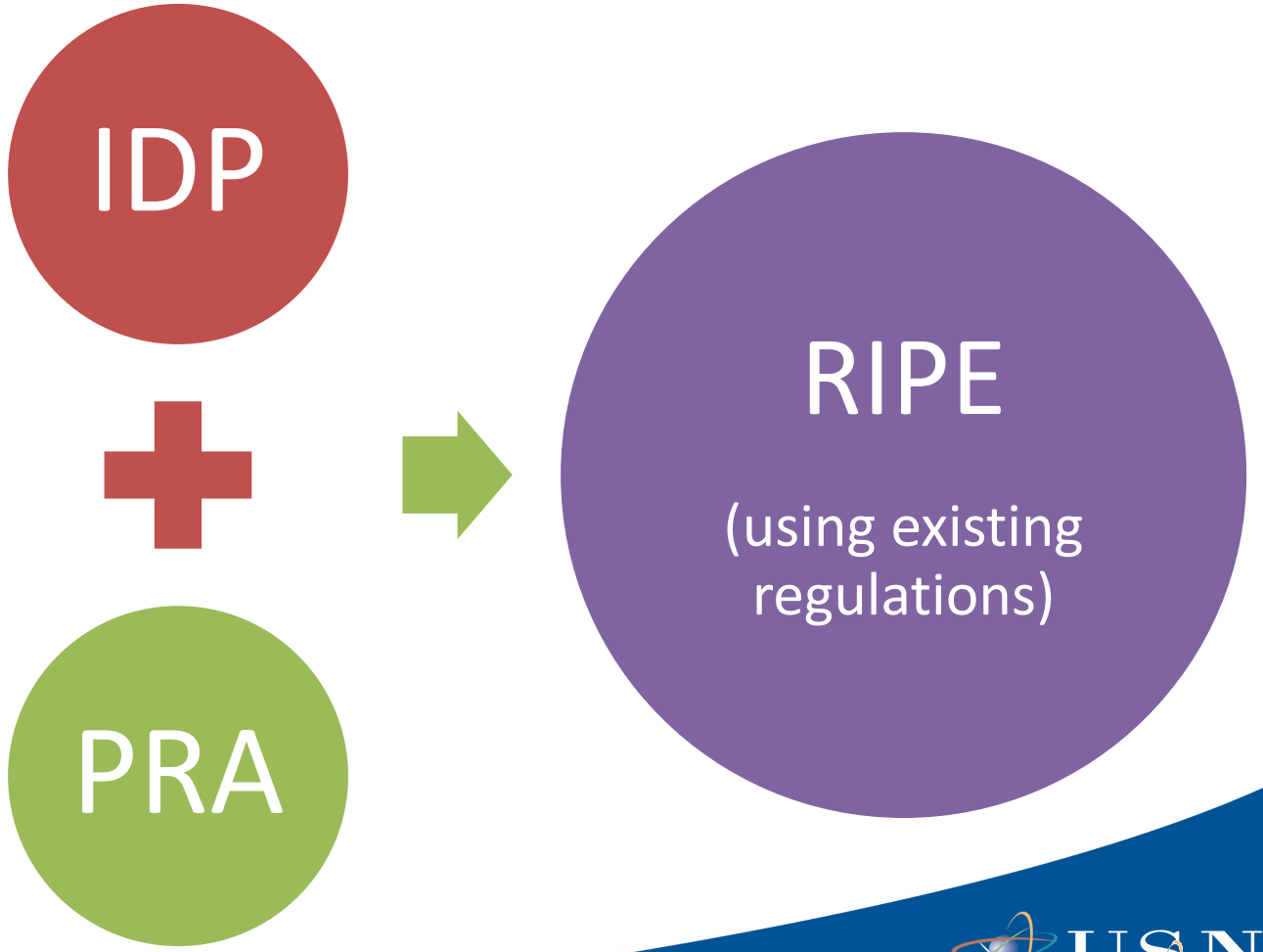
Does not generically apply to regulatory issues and is not intended to displace rulemaking.

Does address unique plant non-compliance issues that would be specific to a narrow portion of the regulation for that licensee.

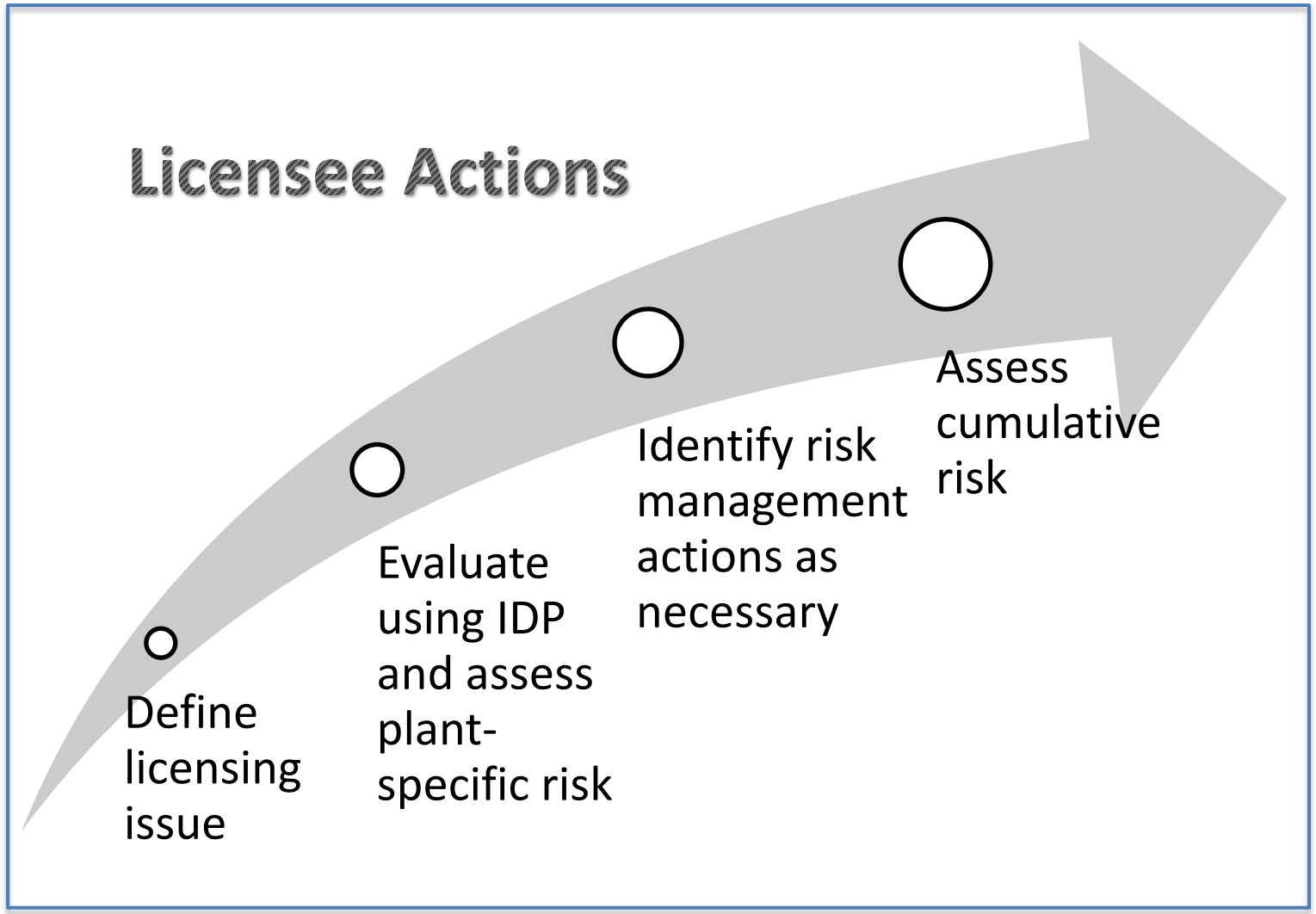
Leverage work done in previous risk-informed initiatives

Integrated Decision-making Panel (IDP) Reviews Key Engineering Principles

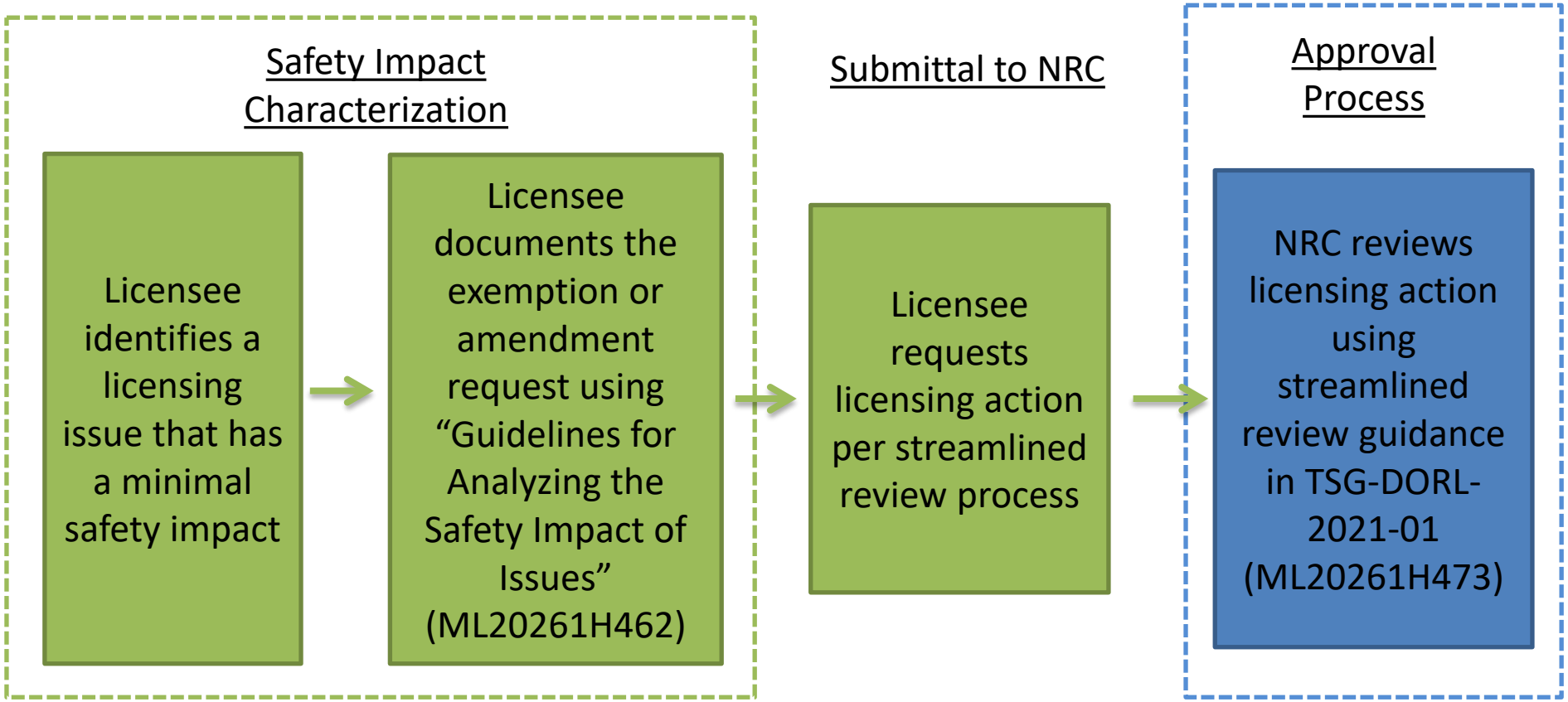
Demonstrated Probabilistic Risk Assessment Acceptability



Implementation of RIPE



Implementation of RIPE



NRC Actions

Licensee Actions

Initiative 4b – Risk Informed Completion Time Program

R - Risk

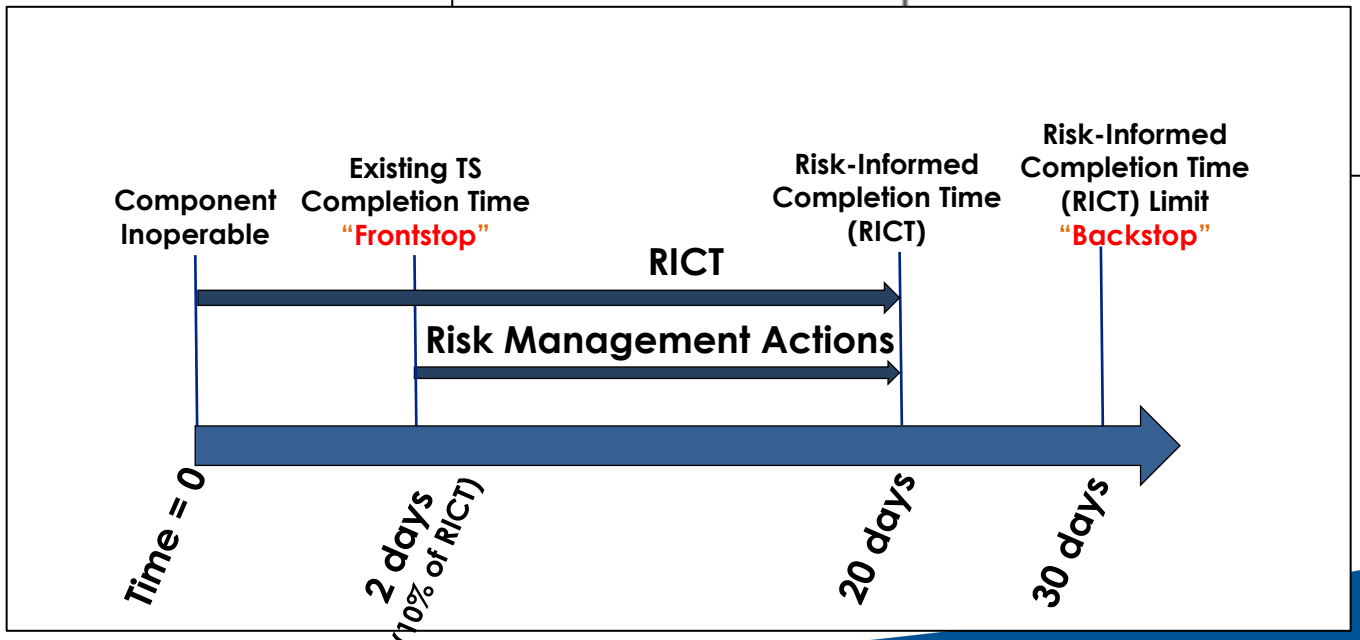
I - Informed

C - Completion

T - Times

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One subsystem inoperable.	A.1 Restore subsystem to OPERABLE status.	3 days OR In accordance with the Risk Informed Completion Time Program



Areas of Review for Initiative 4b (TSTF-505) LARs

Loss of Function

- Maintain the capability to perform all safety functions assumed in accident analysis

PRA Modeling

- Confirm that the risk resulting from LCO inoperability can be numerically estimated

PRA Technical Acceptability

All Non-PRA Modeled Hazards are adequately justified (screened out or conservative bounding estimate)

Total CDF and LERF meet RG 1.174 acceptance guidelines

Derivation of Risk Management Actions

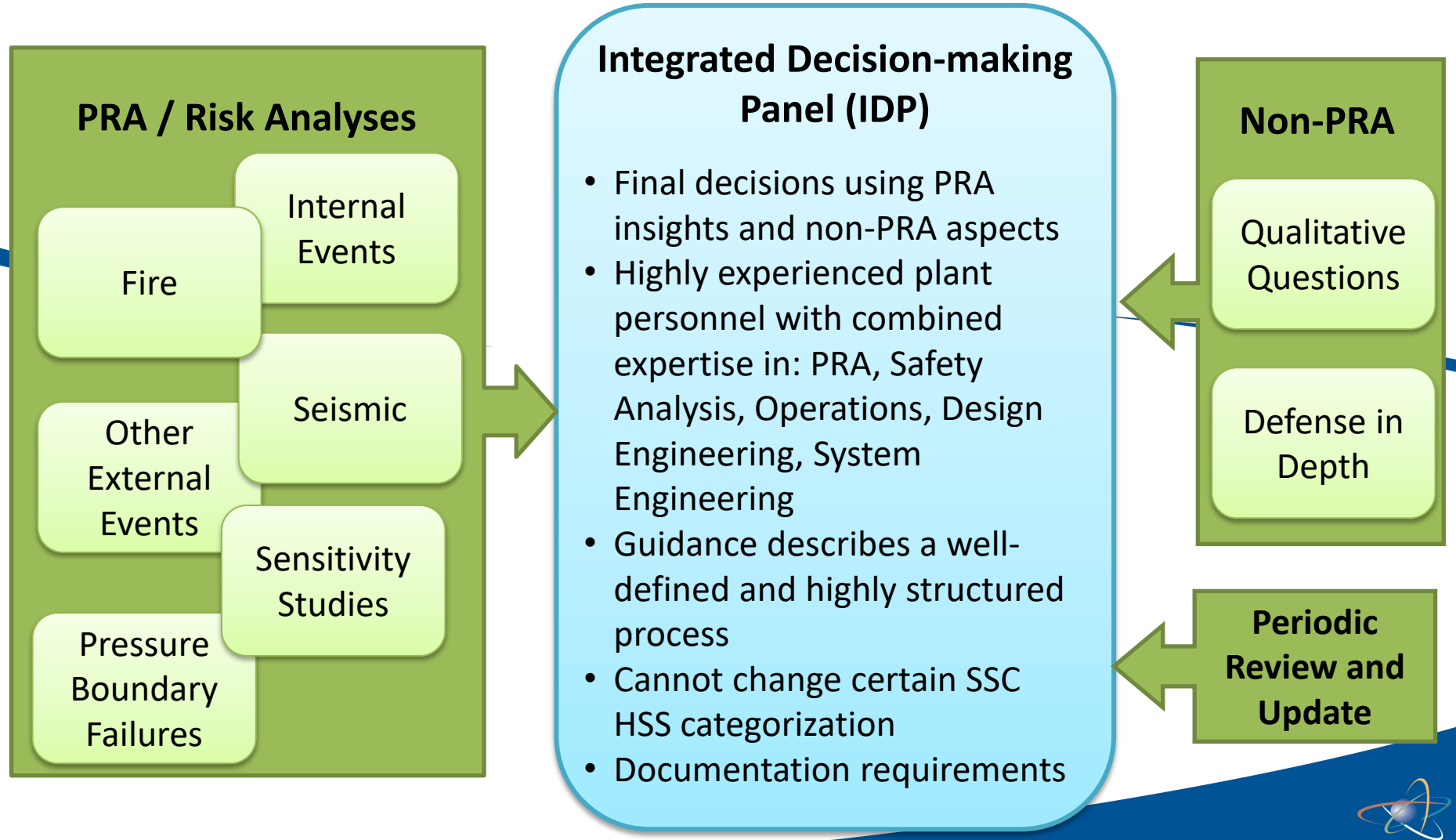
Configuration Risk Management Tool

- Benchmarking against the base PRA model
- Use of the tool

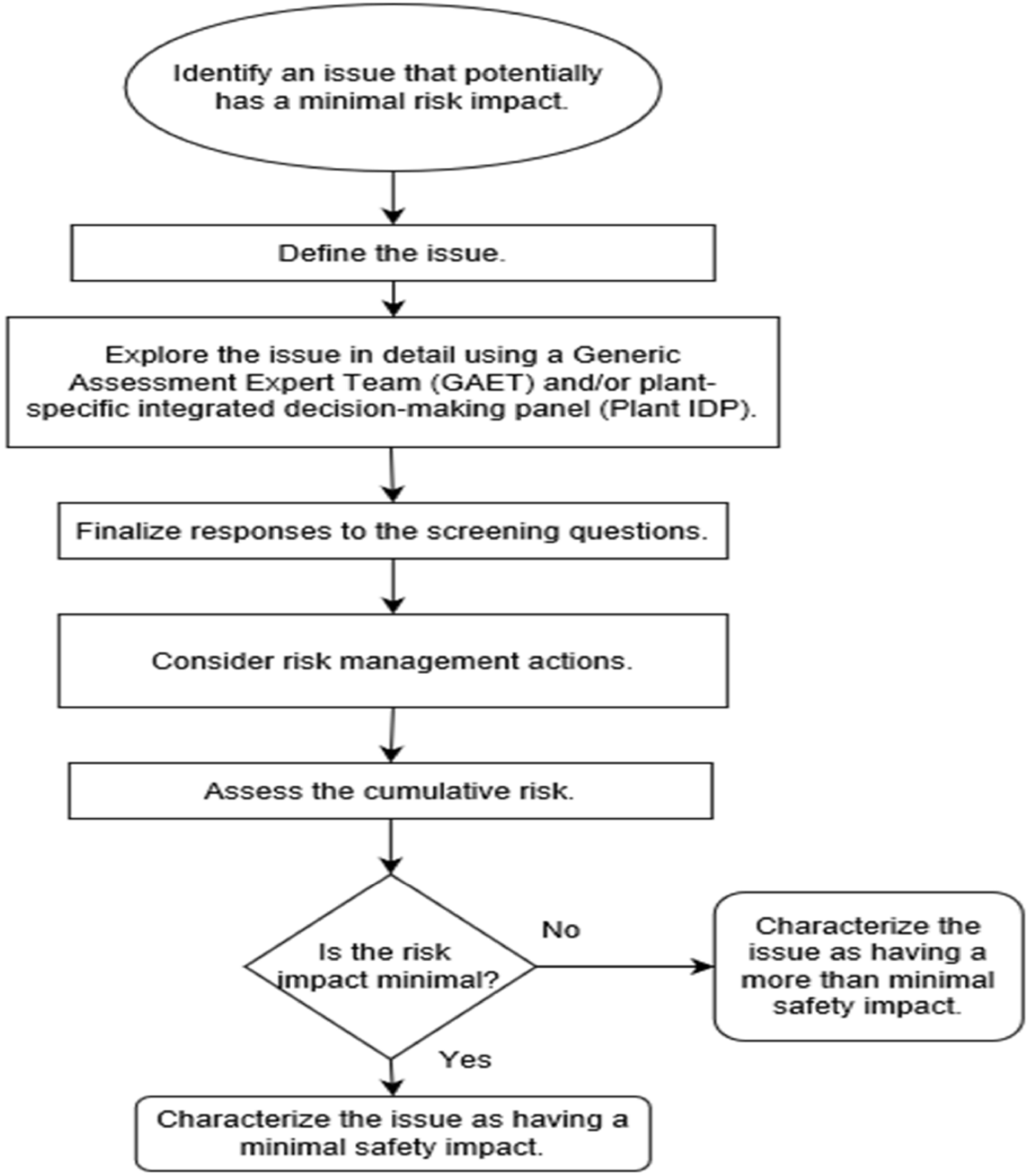
10 CFR 50.69 - Risk-informed categorization and treatment of structures, systems and components for nuclear power reactors

- What does it allow the licensee to do?
  - Allows reduction of many “special treatment requirements” for safety-related SSCs that are categorized as low safety significance. Conversely, requires additional controls for non-safety-related SSCs categorized as safety significant be evaluated to ensure they can perform their safety significant function(s)
  - 10 CFR 50.69 does not replace the existing "safety-related" and "non-safety related" categories. Rather, 10 CFR 50.69 divides these categories into two subcategories based on high or low safety significance
- How does a licensee implement the program, once the SE is issued?
  - Upon NRC review and approval of these processes, a licensee could then apply the categorization process to as many (or as few) systems as desired, provided that the entire system is considered

Robust Categorization Process



Safety Impact Characterization Overview



Safety Impact Characterization

Identify an issue that potentially has a minimal risk impact

NRC-identified or licensee-identified

Current phase will focus on Reactor Safety

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Safety Impact Characterization

Define the issue

↓

Explore the issue in detail using a Generic Assessment Expert Team (GAET) and/or plant-specific integrated decision-making panel (Plant IDP)

↓

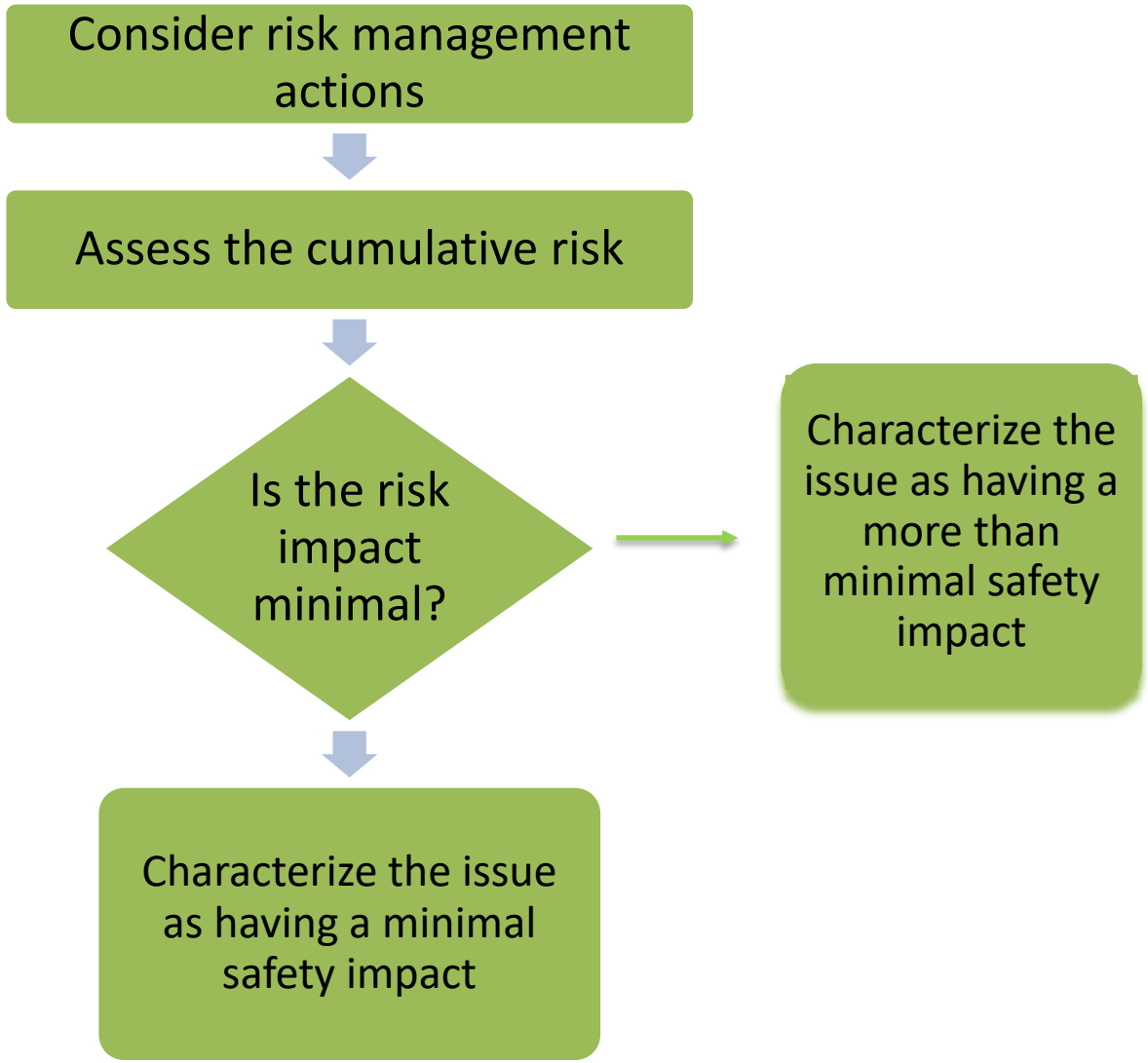
Finalize responses to the screening questions

Preliminary Screening Questions

Does the issue:

1. Result in any impact on the frequency of occurrence of an accident initiator or result in a new accident initiator?
2. Result in any impact on the availability, reliability, or capability of SSCs or personnel relied upon to mitigate a transient, accident, or natural hazard?
3. Result in any impact on the consequences of an accident sequence?
4. Result in any impact on the capability of a fission product barrier?
5. Result in any impact on defense-in-depth capability or impact in safety margin?

Safety Impact Characterization



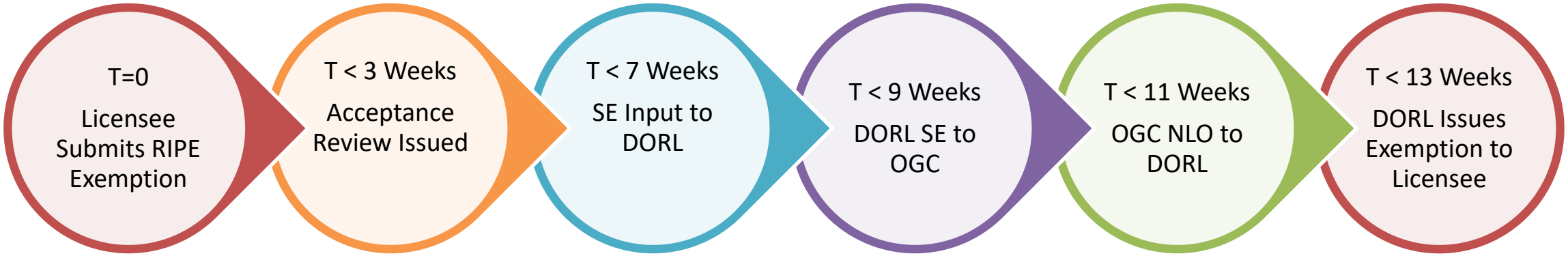
All of the following must apply to characterize an issue as having a minimal safety impact:

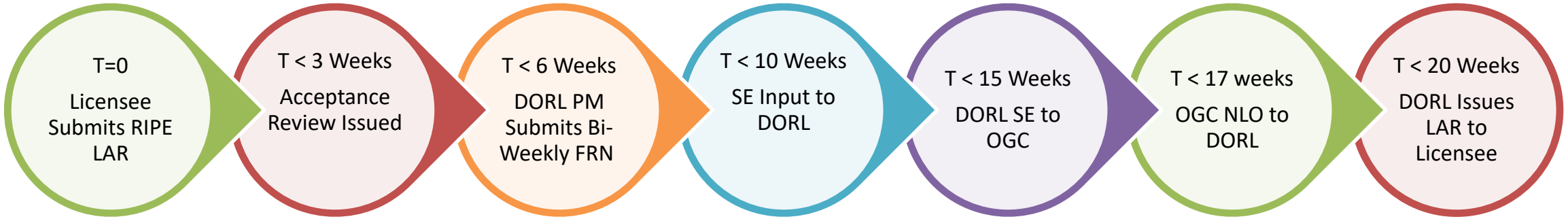
- ΔCDF less than 1×10^{-7} / year.
- ΔLERF less than 1×10^{-8} / year.
- The issue screens to no impact or minimal impact using the screening questions.
- Cumulative risk is acceptable.

Example Submittal

- REGULATORY REQUEST
- DETAILED DESCRIPTION OF THE REGULATORY ISSUE
- REFERENCES
- SUPPORTING INFORMATION FOR CONCLUSIONS REGARDING SAFETY IMPACT:
  - If a generic assessment was performed, provide the generic preliminary screening question results, including explanations
  - Steps 1 and 2: Site-specific screening question results, including explanations
- STEP 3 - PRA RESULTS AND ASSOCIATED DISCUSSIONS, INCLUDING SENSITIVITY ANALYSES
- STEP 4 - ASSESS NEED FOR RISK MANAGEMENT ACTIONS
- CUMULATIVE RISK RESULTS
- SAFETY IMPACT CHARACTERIZATION CONCLUSION
- SIGNIFICANT HAZARDS CONSIDERATIONS
- ENVIRONMENTAL CONSIDERATIONS

Streamlined NRC Review Process





Emphasis is on using resources commensurate with safety significance, not duration

Why RIPE?

- Focus NRC and licensee resources on the most safety significant issues
- Address low safety significance compliance issues in an efficient and predictable manner consistent with our Principles of Good Regulation
- Leverage existing regulations and risk insights
- Incentivize the further development and use of probabilistic risk assessment models and applications

What's Next?

- Continue to explore expansion of RIPE to include:
  - Exemption and amendment requests from licensees that do not have an approved TSTF-505 (Risk-Informed Completion Times) amendment, but have an approved TSTF-425 (Surveillance Frequency Control) amendment or can provide other forms of risk information.
  - Exemption and amendment requests in other areas (EP, Security, etc)
- Continue outreach to interested parties

Questions?

Send additional feedback or questions to:

Antonios.Zoulis@nrc.gov

Timothy.Reed@nrc.gov

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Global Expertise • One Voice

Expanding RIPE Concept to Deal with Generic Issues

ACRS Meeting

June 2, 2021

Introduction

- **Current Risk Informed Process for Evaluations (RIPE) is a significant step forward in risk informed decision making**
  - Focus industry and NRC resources on safety significant issues

- **Expansion of current process supports further reduction of resources on low risk significant issues**

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Expanding RIPE Concept to Deal with Generic Issues

- Leverage RIPE concept of expedited review for low-risk significance
- Maximized applicability to generic evaluations
- Using bounding risk calculations for demonstrably low safety significant issues to support expedited NRC review and focus effort.
  - MSLB asymmetric cooling issue (dose timeline)
  - Looking for additional suitable examples
- PRA technical adequacy for some issues can be addressed via bounding assumptions and assessed via GAET (Generic Assessment Expert Team) and confirmed for plant specific applicability

Example of Low Safety Significance Issue

- **Asymmetric Natural Cooldown**
  - For low risk conditions, current cooldown practices may challenge offsite dose limits using current methodology/assumptions
- **Specific conditions**
  - Main Steamline Break (MSLB), faulted Steam Generator (SG), cooldown with 1 SG isolated
  - Offsite doses can be challenged if concurrent conditions occur (Design Basis)
  - EOP changes needed to address the condition focus on rapidly cooling down the plant to limit the calculated doses (success path)
    - More rapid cooldown imposes additional operator challenges
    - Increase error potential (more complicated cooldown strategies, including RCS opening) ➔ increase frequency of failure path.
- **Non risk significant scenario**

Specific Conditions for Generic Risk Calculation

- **Boundary Conditions**
  - Faulted/un-isolated SG
  - Concurrent Loss of Offsite Power
  - Maximum allowable fuel leakage
  - Maximum allowable primary to secondary leakage
- **Assumptions**
  - Faulted SG/un-isolated SG with concurrent loss of offsite power = core damage
  - Conservative
    - Plant can be safe/stable with normal cooldown
    - Rapid asymmetrical cooldown limits total offsite dose

Generic assessment and Evaluation Team (IDP/GAET) Considerations

- Generic Initiating Events (i.e., entry condition) frequency
- Fuel damage not allowed by the event
- Bounding Single Failure
- Fuel Leakage history
- Primary to secondary leakage history
- Conservatism in offsite dose analysis
- Plant-specific applicability

Potential RIPE Enhancement

- **Some issues of generic very low safety significance**
  - Use generic bounding analysis (e.g., topical report) to determine safety significance
  - GAET may be able to replace plant specific IDP requirements
  - Streamlined NRC review of topical report
- **Submittal process (topical)**
  - Risk-informed review of a topical report
    - Implement via 50.59

    Or

  - Alternatively enabling simplified plant-specific submittal

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Questions?

Industry Progress on Risk Informed Process for Evaluations

Victoria Anderson, NEI

June 2, 2021

NUCLEAR ENERGY INSTITUTE

Overview

- General industry perspective on the Risk Informed Process for Evaluations (RIPE)
- Industry efforts on RIPE implementation
  - First movers
  - Expansion of scope
  - Industry document development
- Next steps

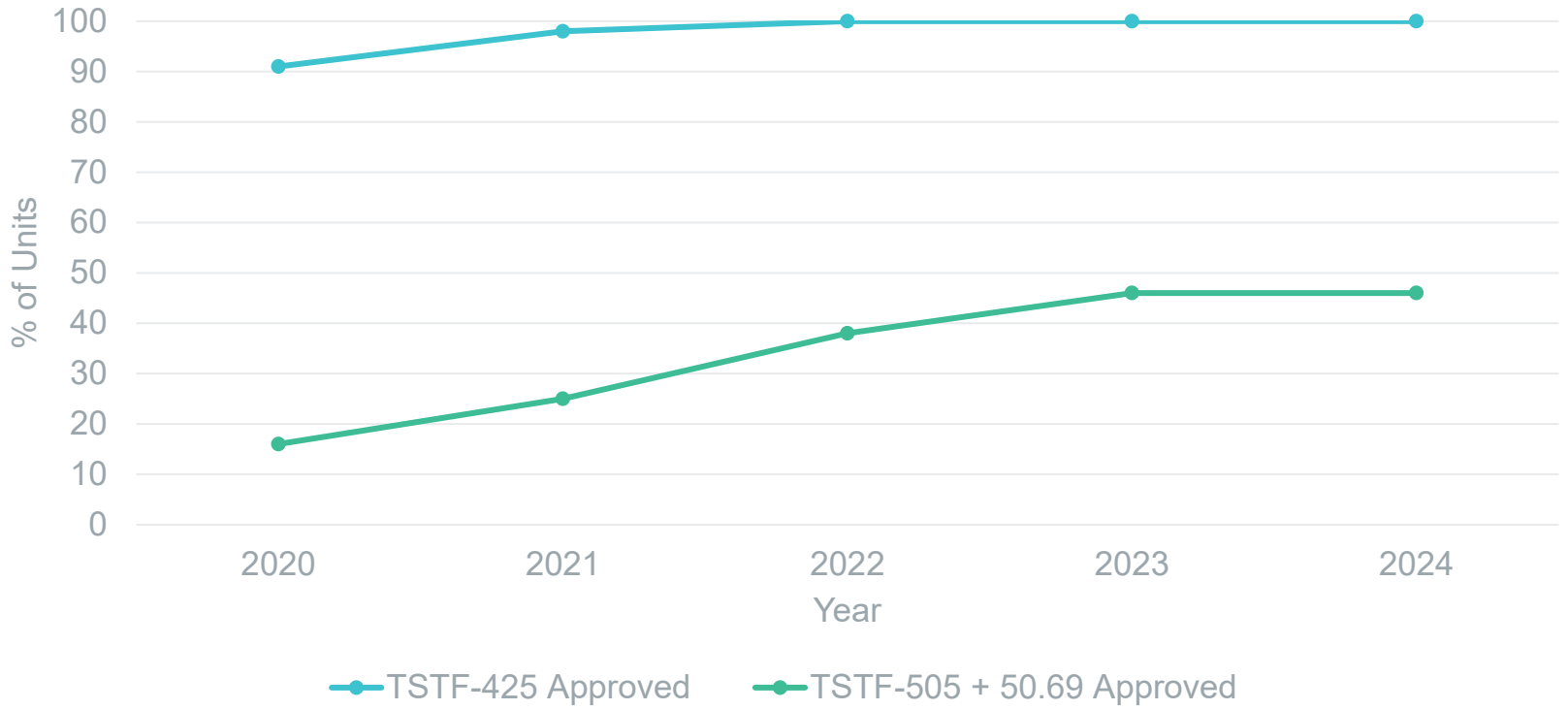
Perspective on RIPE

- Industry appreciates innovative concept from NRC
  - Potential to leverage existing analysis and PRA infrastructure to streamline decision making
  - Offers licensees an option for more rapid resolution of emerging issues if existing analysis supports RIPE approach
  - Prime example of progress on modern, risk-informed regulation
  - Use of output from Integrated Decision Making Panel and reliance on previously NRC-reviewed analysis supports streamlined review and eliminates duplication of efforts
- Traditional risk-informed exemptions and license amendments will still continue as RIPE is not suitable for all issues

Industry efforts – First Movers

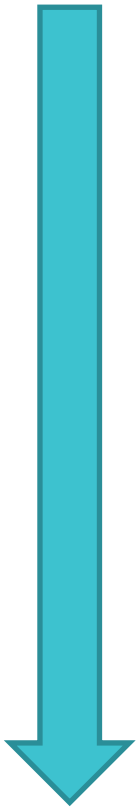
- RIPE available to licensees with approved TSTF-505 programs since late 2020
- NEI regularly discussing possible RIPE uses with licensees who have approved TSTF-505 programs
- Several potential uses identified to date
  - All cases involved resolution via other means
  - Continuing to discuss possibilities regularly
- Expansion to additional licensees will result in more opportunities for use
  - RIPE using TSTF-425 approval as basis for PRA technical acceptability accomplishes this
  - Available since late April 2021

Adoption of TSTF-425 and TSTF-505 Over Time



Comparison of PRA Technical Acceptability by Program

Increasing PRA Rigor



	Internal Events PRA	**Internal Fire PRA**	**External Hazards PRA**
RIPE	Capability Category I (Screening)	Qualitative of N/A	Qualitative of N/A
TSTF-425	Capability Category II	Qualitative/ Bounding	Qualitative/ Bounding
TSTF-505	Capability Category II	Capability Category II	Site specific (Qualitative/ Bounding or Capability Category II

Industry Document Development and Support

- Issued NEI 21-01, *Industry Guidance to Support Implementation of NRC's Risk Informed Process for Evaluations*, in April 2021
  - Documents Integrated Decision Making Panel process and expectations
  - Describes necessary PRA technical adequacy documentation for submittals
- Template for RIPE submittals included as appendix to NEI 06-02, *License Amendment Request Submittals*
- Continuing to interface with NRC staff to ensure adequate support for RIPE

Next Steps

- NRC update to Temporary Staff Guidance
- Continue to integrate feedback into guidance and templates
- Lead licensee uses of RIPE

