

**Official Transcript of Proceedings**  
**NUCLEAR REGULATORY COMMISSION**

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Between U.S. Nuclear Regulatory Commission  
and Holtec International

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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PUBLIC MEETING

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PRE-DECISIONAL ENFORCEMENT CONFERENCE (PEC) BETWEEN

U.S. NUCLEAR REGULATORY COMMISSION AND HOLTEC

INTERNATIONAL (EA-18-151)

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WEDNESDAY,

JANUARY 9, 2019

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ROCKVILLE, MARYLAND

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The meeting was held in the Commissioners ' Hearing Room at the Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, at 1:00 p.m.

PRESENT FROM THE NRC:

MICHELE BURGESS, NMSS

MARLONE DAVIS, NMSS

MICHAEL LAYTON, NMSS

EARL LOVE, NMSS

PATRICIA SILVA, NMSS

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ALSO PRESENT:  
  
STEFAN ANTON, Holtec  
CHUCK BULLARD, Holtec  
KIM MANZIONE, Holtec  
KRISHNA P. SINGH, Holtec  
ROBERT TINDAL, Holtec

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

(1:00 p.m.)

1  
2  
3 MR. LAYTON: Thank you, Fran. Good  
4 afternoon, everyone. We are now on the record. This  
5 meeting is being webcast and also transcribed.

6 I am Michael Layton, the Division Director  
7 for the Division of Spent Fuel Management at the  
8 Nuclear Regulatory Commission's Office of Nuclear  
9 Materials Safety and Safeguards.

10 Today we will be conducting a pre-  
11 decisional enforcement conference to discuss apparent  
12 violations of NRC requirements identified during our  
13 announced routine inspection of your Holtec  
14 International corporate offices in Camden, New Jersey.

15 Two apparent violations were identified  
16 during this inspection. The details of the inspection  
17 and the apparent violations are described in the NRC's  
18 inspection report, which is available on the NRC  
19 website, and I also believe that there is a link in  
20 the meeting announcement.

21 In summary, the apparent violations  
22 involve Holtec's failure to establish adequate design  
23 control measures associated with the design change for  
24 the shim stand-offs in its multi-purpose storage  
25 canister, and, also, appropriate performance of design

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1 change evaluations in accordance with the requirements  
2 of 10 CFR 72.48.

3 Specifically, this design change involved  
4 the use of stainless steel stand-off pins on the  
5 bottom of the fuel basket assembly shims. The NRC  
6 does not consider that there is an immediate safety  
7 concern associated with the loaded canisters using the  
8 steel stand-off pins, but some questions remain  
9 regarding the potential safety significance if the  
10 canisters with failed stand-off pins were loaded above  
11 the prescribed thermal limits.

12 This conference is an opportunity for  
13 Holtec International to provide any additional  
14 information or evaluations associated with the two  
15 apparent violations to inform the NRC's final  
16 enforcement decision.

17 Before I go further I would like to  
18 introduce the remaining NRC representatives at the  
19 table and give Holtec an opportunity to introduce its  
20 representatives at the table.

21 For the persons on the bridge line, there  
22 will be an opportunity at the end of the conference to  
23 identify yourselves and provide comments to the NRC  
24 regarding this meeting. Earl, would you lead us off,  
25 please?

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1 MR. LOVE: Yes, Mike. My name is Earl  
2 Love. I am a Senior Transportation and Storage Safety  
3 Inspector. I work for the Office of Nuclear Materials  
4 Safety and Safeguards, Division of Spent Fuel  
5 Management, Inspections and Operations Branch. I was  
6 the lead inspector on the Holtec inspection.

7 MS. SILVA: Good afternoon. I am Patricia  
8 Silva. I am the Chief of the Inspections and  
9 Operations Branch in the Division of Spent Fuel  
10 Management.

11 MS. BURGESS: Hi, I am Michele Burgess.  
12 I am the Enforcement Coordinator for the office.

13 MR. DAVIS: Hello. I am Marlone Davis.  
14 I was also on the inspection team, Senior Safety,  
15 Storage, and Protection Inspector.

16 MR. LAYTON: Thank you. Dr. Singh?

17 DR. SINGH: Yes, thank you, Mr. Layton.  
18 I think you gave a very concise and factual summary of  
19 the situation. I will provide additional information  
20 for Holtec in these proceedings.

21 I have with me some of the principle  
22 people who work in our program. I will ask them to  
23 introduce themselves to you before we proceed and then  
24 I'll take over and go make the presentation, subject  
25 to your concurrence from the podium.

1 MR. LAYTON: Thank you.

2 DR. SINGH: Okay, thank you.

3 MR. LAYTON: Thank you.

4 DR. SINGH: Kim?

5 MS. MANZIONE: I am Kim Manzione. I am  
6 the Licensing Manager for Holtec International.

7 MR. BULLARD: Hi, I am Chuck Bullard. I  
8 am the Director of Engineering Mechanics at Holtec  
9 International.

10 DR. ANTON: Hi, I am Stefan Anton and I am  
11 VP of Engineering and Licensing at Holtec  
12 International.

13 MR. TINDAL: Good afternoon. I am Rob  
14 Tindal. I am the Senior Director of Projects at  
15 Holtec.

16 MR. LAYTON: Thank you all and welcome.  
17 I do want to emphasize that the NRC has not made a  
18 final determination of the apparent violations  
19 occurrence as they were described or that an  
20 enforcement action will be taken.

21 This conference is an important step in  
22 our deliberative process for making decisions. The  
23 purpose of the conference is to afford Holtec the  
24 opportunity to provide NRC with additional information  
25 for the NRC to make an informed enforcement decision.

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1           However, no decisions will be reached or  
2           discussed during this conference. For Holtec I  
3           encourage you to be candid in providing your  
4           perspectives on the apparent violations, their  
5           significant circumstances surrounding the apparent  
6           violations, corrective actions taken and planned, and  
7           another information that you believe will be relevant  
8           to the NRC's enforcement decision.

9           And as a reminder this is a public  
10          meeting. Any sensitive and business propriety  
11          information should not be presented in this meeting.  
12          If such information is needed it may be provided to  
13          the NRC in writing following this meeting.

14          Following my opening remarks Michele  
15          Burgess, our Office Enforcement Coordinator, will  
16          discuss the Agency's enforcement policy and process.  
17          Then Patricia Silva, Chief of the Inspection and  
18          Operations Branch, will describe the apparent  
19          violations in more detail.

20          After that you will be given an  
21          opportunity to respond and present any information  
22          that you would like the NRC to consider as we make our  
23          final decision.

24          I also want to note that the question and  
25          answer session that is listed in the agenda includes

1 a 30-minute recess before the conference is concluded  
2 so that the NRC participants can briefly review what  
3 was presented and determine if there are any follow  
4 questions that the NRC may have.

5 We'll take that recess and then address  
6 any final questions we have and then proceed with  
7 concluding remarks. Do you have any questions on what  
8 I have described thus far?

9 DR. SINGH: No, we do not.

10 MR. LAYTON: Thank you. I will now ask  
11 Ms. Burgess to discuss the Agency's enforcement policy  
12 and process. Michele?

13 MS. BURGESS: Hello. I am Michele  
14 Burgess. I am one of the Enforcement Coordinators for  
15 the office, NMSS, and what I would like to do is give  
16 a brief overview of the NRC enforcement process and  
17 program, so it's the generic process, not the  
18 specifics of the case.

19 There are some slides that are being  
20 broadcast now. So on Slide 2 the NRC enforcement  
21 process consists of a number of steps. The first step  
22 is a record to review our inspection, an investigation  
23 step where we are gathering information.

24 Then there is a NRC review of the  
25 information on the issues that we have gathered and

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1 then there is an exit meeting with the entity, that  
2 could be a licensee, a certificate holder, non-  
3 licensee individual, whoever it is that is subject to  
4 the inspection at that point, where we will discuss  
5 whatever our apparent findings are, their apparent  
6 findings at that point.

7 And then the next step would be a letter  
8 to that entity that would be that formal documentation  
9 of what our findings were, so that's the letter that  
10 you received from the NRC.

11 The next step in the process is our pre-  
12 decisional enforcement conference, and you'll hear the  
13 word PEC, that's our shorthand for that, and the  
14 purpose of this step as Mike said was it's for the  
15 entity to provide any additional information that you  
16 want us to know before we make our final decision,  
17 anything that you think that we don't already have.

18 There is no decision that is being made at  
19 the PEC. This is just another step in the information  
20 gathering stages, and this is the step that we are at  
21 right now.

22 So after the PEC the step that follows we  
23 are going to review all of the information, that is  
24 everything that is provided to us in all the steps  
25 above, so everything from the investigation, the

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1 inspection, exit meetings, conversations, emails that  
2 have come through, as well as any information that you  
3 provide to us at this PEC.

4 And all of that will -- We'll take that  
5 together and then we'll make the final Agency decision  
6 and then we will communicate that decision to you guys  
7 in writing. So you can see that it is a series of  
8 steps, it's a deliberative process to get to the end  
9 point.

10 Slide 3. I want to focus on the step that  
11 we are at today. Our enforcement manual and policy  
12 are on the NRC website, so they are publicly  
13 available, and it describes in great detail everything  
14 that we have but I wanted to focus this on the stuff  
15 that we are trying to accomplish today.

16 The NRC's PEC letter to Holtec provides  
17 our basic understanding and our basic perceptions at  
18 this point.

19 The PEC, again, is your opportunity, I  
20 wanted to stress, for you to let us know anything that  
21 you think we need to know, anything you want us to  
22 take into consideration, your perspectives, including  
23 whether the violation occurred, if there is any  
24 information regarding the identification, how it was  
25 identified, and your involvement in that.

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1           Corrective actions are very important in  
2 this discussion. As part of final decision-making  
3 process we need to hear that from you now so we can  
4 take all things into consideration, and it could  
5 include what are things that you have already done,  
6 immediate things to address the immediate issues as  
7 well as long-term things to address the underlying how  
8 did the particular example we are dealing, how did  
9 that occur, what's going to be put in place for long-  
10 term in corrective actions to be able to ensure that  
11 it doesn't happen again to mitigate the possibility of  
12 it happening again.

13           Another thing that you might be is are  
14 able to provide us information about how you see the  
15 characterization of both the significance, the events,  
16 the specific events that played out, and you sent in  
17 a presentation already that you are already addressing  
18 some of these things it looks like.

19           So for Slide 4, after the PEC is when we  
20 are actually going to make our decision in our process  
21 and that is going to encompass a number of points.  
22 Again, it's whether the violation occurred, the  
23 significance of the violation, and then a final  
24 decision on if any an what enforcement action we might  
25 take.

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1 Slide Number 5. There is a number of  
2 possible outcomes when we take action of we take  
3 action. It can range all the way from no action at  
4 all through a notice of violation, which is a written  
5 documentation a violation occurred.

6 It could be that notice of violation along  
7 with a civil penalty, which is a monetary fine. It  
8 could encompass an order which is very specific to  
9 this particular situation over and above just a  
10 generic statement of a violation.

11 It could include specific actions that we  
12 require you to take. Where we end up with which of  
13 those things on the range depends on the specifics of  
14 the particular case, and that's why, again, it's  
15 really important for you to tell us everything that  
16 you think we need to know so we can make our best  
17 decision.

18 Slide Number 6. So as part of the NRC  
19 final decision we are going to categorize any  
20 violations with respect to their significance and the  
21 chart that is up there now is Severity Level 1 through  
22 4.

23 Severity Level 1 are our most significant  
24 concerns through Severity Level 4 which is less  
25 significant. It still is a concern, however, it's

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1 just not as significant.

2 If it doesn't meet these then we classify  
3 those as minor. You guys have used that term in your  
4 presentation. I think 1 through 3 are considered  
5 escalated.

6 So on Slide 7 there is four factors that  
7 we consider when we are assigning severity level. We  
8 look at the actual safety consequences, so the  
9 particular example we have at hand.

10 We look at the potential safety  
11 consequences both of the example at hand as well as  
12 the underlying how did that happen, not even the  
13 particular example at hand but what could have  
14 happened if there is an underlying failure of a  
15 process.

16 We look at the impact on the regulatory  
17 process and we take into consideration any  
18 willfulness.

19 Slide 8. So escalated violations have the  
20 potential for a civil penalty and we use a methodical  
21 way to determine whether or not, as a standard  
22 process, whether or not we should have a civil penalty  
23 and what that civil penalty might be, and it's based  
24 on a number of actions.

25 One is whether or not it was wilful,

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1 whether or not there is any recent history on any  
2 other escalated violations, whether it's the entity or  
3 the NRC that identified the violation, and whether the  
4 entity had timely and complete corrective actions.

5 And the purpose for that graded approach  
6 is to give credit, give relief, give acknowledgment to  
7 entities that are identifying their own problems, for  
8 example through QA programs, as well as licensees that  
9 are entities that once they identify the problem,  
10 regardless of who identified it, they promptly and  
11 timely and completely correct the situation and ensure  
12 it's not going to happen. So the graded approach  
13 allows for consideration of those factors.

14 Slide Number 9. The actual amount of the  
15 CP is dependent on the type of entity or licensee and  
16 the severity of the violation.

17 And, in short, entities that handle large  
18 amounts of, or larger amounts of radioactive material,  
19 or they could have a greater impact on the public or  
20 the environment tend to have the larger amounts where  
21 those entities having a smaller more limited scope  
22 would have the smaller CP amounts as base values.

23 And then, also, the severity level, the  
24 higher the severity level, are going to have the  
25 higher civil penalties associated with it as a base

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1 value as opposed to the lower severity levels.

2 For Slide Number 10, regardless of the  
3 outcome of that standard process that I just described  
4 the NRC can exercise discretion to either escalate or  
5 mitigate civil penalty based on the particular  
6 circumstances for that particular case, for example  
7 where it is particularly egregious what happened or  
8 where there might be some significant exposures to  
9 members of the public or an environment are some  
10 examples.

11 Slide Number 11. If the NRC takes  
12 enforcement action it's going to be publically  
13 available. It will be in ADAMS, it will be on the  
14 NRC's public website, and then in the event that there  
15 is a civil penalty or we issue an order normally there  
16 is also a press release associated with that.

17 Slide Number 12. There is also the  
18 ability to challenge our finding. When we issue our  
19 final action there are processes in place where if you  
20 disagree with it that you can challenge the finding.

21 Depending upon what exactly the final  
22 action turns out to be, it will tell you what the  
23 processes are available for that. There will be  
24 instructions in the final action that we give you. It  
25 will have that instructions on there for how you can

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1 follow through whatever options are open to you.

2 Slide 13. So just to summarize the steps  
3 that are going to follow from this step forward, we  
4 are going to review all of the information that we  
5 have and then we are going to make our final decision.

6 That final decision is going to be  
7 communicated to you guys. We strive to make our final  
8 decision in a timely manner, that is normally 30 to 60  
9 days.

10 However, of course, the length of time for  
11 any particular case could also be dependent on, you  
12 know, the volume of material that we are looking at,  
13 how much you are going to give us today, but our  
14 normal timeframe is about 30 to 60 days, and that's  
15 going to be in writing to you guys and it would be  
16 publicly available.

17 Slide Number 14. So this concludes the  
18 presentation of the process, the details of the  
19 process with the process that we are going to work  
20 through, and if there weren't any particular questions  
21 on the process then I would turn it over to Patti for  
22 --

23 DR. SINGH: Yes, we have no questions.

24 MS. SILVA: Okay. Thank you, Michele.

25 Again, I am Patricia Silva, the Chief of the

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1 Inspections and Operations Branch. The apparent  
2 violations that are subject to this conference were  
3 described in the NRC's Choice Letter EA-18-151 issued  
4 on November 29, 2018.

5 In brief, the apparent violations involve  
6 1) failure to establish adequate design control  
7 measures as part of the selection and review of  
8 suitability of application of materials, parts,  
9 equipment, and processes that are essential to the  
10 functions of the structure, system, and components  
11 which are important to safety in accordance with 10  
12 CFR 72.146(a) Design Control, and, 2) failure to  
13 perform a 10 CFR 72.48 evaluation, which is the change  
14 process.

15 On or after August 2016 Holtec failed to  
16 establish adequate design control measures as part of  
17 selecting foreign stainless steel stand-off pins as an  
18 alternative for supporting the fuel basket shims in  
19 its multi-purpose canister.

20 The stand-off pins are essential to the  
21 function of the fuel basket to maintain support and  
22 ensure the shims stay elevated to allow helium gas to  
23 circulate and cool the fuel assemblies within the  
24 multi-purpose canister.

25 Regarding the 10 CFR 72.48 change process

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1 Holtec failed to perform a written evaluation to  
2 demonstrate that a design change for multi-purpose  
3 canister stainless steel stand-off pins did not  
4 require an amendment to the certificate of compliance.

5 Holtec completed the 72.48 screening and  
6 incorrectly determined that a written evaluation was  
7 not needed. During a November 26, 2018, telephonic  
8 exit meeting you and Mr. Earl Love of the NRC  
9 discussed these apparent violations, the potential  
10 significance of the issues, and the need for lasting  
11 and effective corrective actions.

12 This conference will provide an  
13 opportunity for you to provide your perspective on  
14 these matters and any other information you believe  
15 the NRC should take into consideration in making an  
16 enforcement decision.

17 In presenting any corrective actions you  
18 should be aware that promptness and comprehensiveness  
19 of your actions will be considered in assessing the  
20 potential civil penalty for the apparent violations.

21 Unless there are any questions at this  
22 time we now want to give you the opportunity to  
23 provide any information that you would like us to  
24 consider prior to the final decision in this matter.

25 DR. SINGH: Thank you. We have no

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1 questions on your statements. If it is permissible  
2 should I begin the presentation?

3 MR. LAYTON: Yes, please.

4 DR. SINGH: Okay. Thank you. Well thank  
5 you all for giving us the opportunity to provide you  
6 what I will characterize as the additional  
7 information, and there is a substantial body of  
8 additional information as you must have surmised from  
9 the material we sent you yesterday.

10 We believe that the information that we  
11 provided you, and I will articulate further in this  
12 presentation, should help you make the right decision.

13 Just to deal with some housekeeping  
14 material, yesterday we sent you all substantiating  
15 documents that you might need to consult in making  
16 your decision related to the shim stand-off episode.

17 Okay, we will use the term shim stand-off,  
18 SSO, throughout this presentation. So I will later  
19 explain to you what they look like and what their real  
20 significance is, but we want to make sure that  
21 information is provided to you as promptly as possible  
22 if you have any follow-up questions.

23 This document, the presentation, which is  
24 about 37 pages, will be shared with you and you may  
25 treat this as an authoritative document on our

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1 position.

2           There may be some minor edits based on  
3 your questions and if we see that we are not  
4 absolutely clear in our position we will edit it  
5 appropriately and provide you the final draft for the  
6 site.

7           But the intent is to reach out to you as  
8 comprehensively as possible to provide you all the  
9 necessary information. If we do that well then we  
10 know you will come to the right decision.

11           Getting to Slide Number 3, the purpose of  
12 this presentation, and they tell you up front what we  
13 plan to present to you, but first with a whole lot of  
14 data.

15           The first point that will provide you  
16 additional information to show that the entire  
17 population of SSOs plays no role, and the emphasis is  
18 on no, no role in the safety function of any of the  
19 MPCs that have been loaded across the country, and I  
20 don't mean a minor role, no role, okay. We will prove  
21 it to you later.

22           Stated differently, the loaded MPCs will  
23 fulfill their intended function without exceeding any  
24 regulatory limits under all applicable conditions of  
25 storage and transport even if they had no SSOs.

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1           Because the SSOs play no role in the  
2 safety performance of the loaded MPCs they can be  
3 correctly characterized as not-important-to-safety,  
4 meaning NITS, which is an item in our vernacular, so  
5 I will start using the term NITS going forward.

6           Now I just want to make sure that we don't  
7 get lost in terminology. We use the term basket shim  
8 assembly, which consists of the basket shims  
9 themselves and the short SSOs that you are so familiar  
10 with.

11           Together they constitute the basket shim  
12 assembly. Individually one is the basket, the upper  
13 one, and the bottom one is the SSO, and we  
14 differentiate them because they are two constituents  
15 that are put together to make the assembly, okay.

16           Now I should also in the purpose of this  
17 presentation is to inform you that learning from this  
18 episode Holtec has performed a stem-to-stern  
19 reappraisal of its processes and operating procedures  
20 and made numerous improvements to prevent damage to  
21 equipment during handling in manufacturing and  
22 transport to the site and other similar activities  
23 which are typically outside the scope of normal safety  
24 analyses. This has been taken to heart and we will  
25 show you what we have done in some detail.

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1           Going to the next slide. An additional  
2 purpose of this presentation is to provide you  
3 additional facts and insights to clarify and further  
4 inform NRC's findings summarized in the inspection  
5 report.

6           I would point out to you, to state  
7 speaking in clearer jargon, I will point out to you  
8 that there are some places in the inspection report  
9 where one can misconstrue the information.

10           We will share that with you to the major  
11 ones here and minor ones perhaps through email  
12 correspondence that will help us make this document,  
13 your inspection report, truly definitive.

14           No document is ever without NITS and minor  
15 errors. We all know. Those of us who prepare  
16 documents know it. We are all somewhat fallible.  
17 Well, we will provide you the information so the final  
18 document, your document, is equally free of any NITS  
19 and discrepancies.

20           Now we will provide information to you and  
21 safety analyses of the loaded MPC under the  
22 hypothetical assumption, I emphasize hypothetical  
23 assumption, that if no SSOs were installed, I mean  
24 that's what determines whether they are of any value,  
25 they provide and they serve any function.

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1           For the loaded MPCs we have determined,  
2           and we will show you, that the thermal analyses  
3           demonstrate that all regulatory limits are met without  
4           any SSO present in any of the canisters that had been  
5           loaded.

6           That is how, totally superfluous to the  
7           function of the canister there. We will also show you  
8           that the structural analyses demonstrate that  
9           integrity of the stored fuel and the fuel basket is  
10          fully preserved under bounding seismic loads for the  
11          sites where they have been loaded, okay.

12          In other words, this, if you were to quote  
13          Shakespeare, is much ado about nothing, at least that  
14          is our perspective. The violations occurred because  
15          of inadequate consideration of manufacturing  
16          challenges in the design and human performance error  
17          during manufacturing.

18          We concede that that has been a weakness  
19          in our program and to that extent we have taken it to  
20          heart to fix these weaknesses, but I should also  
21          hasten to add that if you look at the documents that  
22          guide us your NRC-approved NEI guidance document in  
23          72.48, I did a search, word search, on the word  
24          "manufacturing," not a single mention of the word.

25          Now this is not to defend, please

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1 understand I am not defending what has happened here,  
2 but the guidance documents do set the tone and our  
3 program, of course, is heavily, heavily, influenced by  
4 the guidance document, was not truly attuned to  
5 looking at the consequences of manufacturing  
6 operations on the design.

7 Now I will speak to it more later, but as  
8 you said be candid, I am being absolutely candid. You  
9 won't find any discussion of manufacturing in the  
10 guidance documents and that is where the problem has  
11 occurred here.

12 Thank goodness the problem, manufacturing  
13 problem, occurred with an item that is not safety  
14 significant for the canisters we have loaded and,  
15 therefore, there is no consequence, but we like to  
16 think deeper, what caused it, why is it that we did  
17 not catch it in our design stage.

18 In looking deeper we found that there is,  
19 indeed, in our industry there is the nexus between  
20 manufacturing and design has been weak. It's actually  
21 true in every industry, but certainly that's not an  
22 excuse.

23 We need to fix it and we have made  
24 numerous changes in our program to ensure that this  
25 sort of thing will never happen again.

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1           Now that will be -- I will further,  
2 further elaborate on it later, and as I said, this,  
3 after I get your questions and items if I have to  
4 change any verbiage we will change it so this becomes  
5 a definitive document for you to reference, by "this"  
6 I mean this presentation becomes a definitive document  
7 for you to consider as additional information.

8           Now the violations they both pertain to  
9 basket shim stand-offs. The first one it says "Holtec  
10 failed to establish adequate design control measures  
11 as part of the selection and review of suitability of  
12 application of alternate four inch shim standoff  
13 pins."

14           Well where we really failed is in looking  
15 at potential fabrication errors and that could happen  
16 and it did happen. Design control is, you can  
17 consider it a part of design control, but the real  
18 error lay in the fact that we did not consider the  
19 consequences, the working that occurs to this  
20 structure during manufacturing and how it might  
21 influence the outcome of manufacturing.

22           That really is the problem here as we see  
23 it. And, you know, you are familiar in the industry,  
24 I mean there have been, you know, today the instances  
25 of stress corrosion and cracking on reactor heads,

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1 well it owes its origin to inadequate consideration of  
2 manufacturing in the design.

3           There are numerous examples, very, very  
4 significant examples in the industry, but that is not,  
5 again, to ask for, to excuse ourselves. This is a  
6 fact of life.

7           Today and at this point in time the  
8 industry has been inadequately sensitive to the inter-  
9 relationship between manufacturing and design. At  
10 Holtec we have fixed it. We have fixed it in spades,  
11 and if you come back to visit us you will see what we  
12 have done.

13           The other violation unfortunately is you  
14 said "Holtec failed to perform a written evaluation to  
15 demonstrate that a design change for multi-purpose  
16 canister stainless steel standoff pin did not require  
17 a CoC Amendment."

18           I will humbly submit that this statement  
19 is not correct. We did perform a full evaluation when  
20 we made the design change to the shim stand-off from  
21 monolithic shim.

22           It was done. What we did not do is when  
23 we received field notice of observed isolated failures  
24 of the shim stand-off when we did the safety  
25 evaluation for that, 72.48, we did not take it to

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1 final evaluation, okay.

2 So as stated, I think we understand what  
3 you intended to say and we have taken it that way, but  
4 I think the language in the violation should be, just  
5 for the sake of posterity should be clarified we did  
6 do a full evaluation of the original stand-off.

7 That does not take away from the fact that  
8 we did not do, and it is a lesson for us to be  
9 learned, we did not do the evaluation when the field  
10 change information came to us, okay.

11 So, please, don't take it again as an  
12 excuse. This is not a defense, this is only to  
13 correct the record. The record should speak  
14 correctly.

15 Now basket shims, I am going to give you  
16 a brief, a very brief low down on the shims, what they  
17 are, so when we have further discussion you are as  
18 well informed as I am in talking about them.

19 The shims, they are shown in golden color  
20 around the basket, these are made out of a high  
21 temperature aluminum alloy. They are designed with  
22 holes inside them, so they are hollow shims.

23 Now why are they hollow? They are hollow  
24 because they allow the helium to circulate. They  
25 become the downcomer for helium, flow comes up the

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1 basket cells, the storage cells, and then goes around  
2 and comes down the downcomer and enters the bottom  
3 plenum.

4 So there is a small contribution to heat  
5 transfer from this helium circulation. Okay, that's  
6 why they are there. There are a lot of them as you  
7 can see pictorial, and later I will give you the  
8 count, a lot of shims that surround the basket, okay,  
9 and each shim has a number of shim stand-offs, okay,  
10 so these things are important to remember as we go  
11 forward.

12 Now let's talk about the shim stand-offs.  
13 Next slide, which is Number 7. The shim stand-off are  
14 the part of the basket shim assembly. They are as Mr.  
15 Layton correctly described is made of stainless steel  
16 and threaded bars.

17 There are typically three in number per  
18 shim, and realize there are many shims. So, for  
19 example, in our MPC-37, which is being used at SONGS,  
20 there are 88 shim stand-offs and there are 32 shims,  
21 so you realize there is a large population of them,  
22 it's not just a single shim or two or three shims.

23 So when we say one shim was found failed,  
24 one shim stand-off was found to have failed, meaning  
25 one out of 88, not a widespread failure, okay. And,

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1 by the way, when we designed these we designed that  
2 out of three one has failed, in other words it's not  
3 available.

4 That was the design basis. And we never  
5 exceeded that in the observed data. So this is just  
6 to give you a glimpse of what I am going to tell you  
7 later, okay.

8 There is the failure that has occurred in  
9 manufacturing, it occurred during manufacturing, is a  
10 very, very small fraction of the number of shim  
11 standoffs we have installed.

12 Now at the bottom you will see the new  
13 design on the right which shows the little shim stand-  
14 offs, they are about four inches long in a shim column  
15 which is about 160 to 180 inches long, so they are  
16 very short when you look at them actually in what they  
17 look like.

18 They are minuscule in their presence and  
19 as it turns out minuscule in significance as well.  
20 Now why do we have these shim stand-offs you must  
21 wonder?

22 Well we install them for two things, one,  
23 the fabricability is easier. It is easier to  
24 fabricate with the shim stand-offs than the old design  
25 which you see on the left with the monolithic shims.

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1           The second goal, and really the real  
2 driver, was to open up the bottom flow area for helium  
3 to flow more freely. Now you can call this technical  
4 greed. We wanted to get a little more kilowatts out  
5 of the same canister, not a lot, but a little more.

6           So these two factors motivated us to  
7 introduce the shim stand-off. The shim stand-off  
8 themselves as I will tell you, as I have said to you  
9 already, are not important to safety.

10          The basket shims, which is, I will speak  
11 to them later, their ID is Class C, okay, the lowest  
12 grade of ITS. Let's go to Slide 8. As I said we have  
13 the SSOs are multiple steel bars tapped into the  
14 bottom face of each shim column to elevate them above  
15 the MPC baseplate to further promote natural  
16 convection of helium inside the MPC.

17          Now you know that there is no free lunch  
18 in nature. When you do that, when you increase helium  
19 convection by opening the area then you reduce  
20 conduction because you have to make a hole in the  
21 shim.

22          So the hole in the shim that I showed you  
23 earlier, the hollow shims, they improve the thermal  
24 circulation, the natural circulation of helium, but  
25 they reduce the conduction because you don't have the

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1 solid shims there.

2 So in that effect it's a slight increase,  
3 still a positive in the ledger of heat transfer. It  
4 does give you more heat transfer, but not a whole lot,  
5 and that's why today when we are defending the shim  
6 stand-off we make the perverse assumption they have  
7 all disappeared and still the canister performs, it  
8 still delivers the heat duty that we have licensed it  
9 to do.

10 So both MPC-68M for HI-STORM 100 that have  
11 been deployed at a couple sites and MP-38 in UMAX, HI-  
12 STORM UMAX, which was being deployed at Southern  
13 California SONGS.

14 But that's the reason, I am giving you the  
15 physical reason why the statements I am making to you  
16 with respect to the non-significance of the shim  
17 stand-offs is founded in solid science.

18 Okay, now let's look at the bottom column  
19 table here. MPC-37, which the only affected plant is  
20 SONGS, has 32 basket shims, as I said earlier, and  
21 it's got 88 shim stand-offs. There is a large  
22 population of them at the bottom, it's not just one,  
23 and BWR basket has 28 shim columns and 76 SSOs. In  
24 both cases a large number of stand-offs and a large  
25 number of shims.

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1           Now let's go through the history of what  
2 happened and the timeline to show you how proactive we  
3 have been and how unsparing we have been of self-  
4 criticism and acting on the weaknesses we have found.

5           First, the SSOs were introduced via an ECO  
6 and 72.48 process which involved performing qualifying  
7 safety analyses. They were all performed and the  
8 analyses showed acceptable safety margins.

9           The 72.48 change through that process we  
10 did not see and the reason why that could not be done  
11 with a full screening and full evaluation. It's an  
12 ITSC item and at every single predicate of safety,  
13 criticality, shielding, thermal hydraulics, they were  
14 all met. They were all met within the NRC guidelines.

15           So that's why we did 72.48 and we accepted  
16 them in the system, and, frankly, although they have  
17 been criticized badly, and if you see in the social  
18 media, truly maligned, these SSOs are perfectly fine  
19 for their intended function.

20           They will mate any canister made now or in  
21 the future, although we have stopped making them  
22 because of the industrial propoganda, but the shim  
23 stand-offs are perfectly fine for their intended  
24 function.

25           What happened is a manufacturing error,

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1 and you can do that to anything and end up with a  
2 problem with the product. So the 72.48 that was done  
3 I respectfully submit was complete, adequate, and it  
4 stands on its own.

5 Now during manufacturing we involve, we  
6 perform repeated rolling of the MPC shell. During  
7 this rolling process is primarily when the problems  
8 occurred.

9 The shim stand-off, they are like little  
10 cantilevers, and if there is a differential motion  
11 between the rolling action of the baseplate, if it's  
12 at an angle from horizontal, which it is for peening  
13 purposes, then the cantilever tended to impose large  
14 loads and bent them.

15 That is what happened. Now I will tell  
16 you I was a witness to a manufacturing evolution.  
17 Almost 40 years ago we were making a component cooling  
18 water heat exchanger, it's a large heat exchanger, you  
19 must see that.

20 It was for Watts Bar Nuclear Plant and it  
21 had like 4000 tubes, a large 60-foot long unit.  
22 Tested it, inspected it, it was fine. Then the last  
23 step was to install saddles (phonetic) on the shell.  
24 For that it had to be rolled and the rolling was done  
25 a little too roughly, wasn't done slowly, and that

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1 turned every single tube inside into a snake.

2 Nobody, including me, thought of it, but  
3 it happened. The whole unit had to be junked.  
4 Manufacturing can add in serious problems and if one  
5 does not consider such things, potential problems  
6 during manufacturing, you have loads that are far in  
7 excess, in some cases loads that you see in actual  
8 operation.

9 You know, you take an MPC shell, we take  
10 a flat plate and we roll it, the amount of strain that  
11 we put on that plate to roll it is enormous. You  
12 don't see that in actual operation. So manufacturing  
13 is not to be discounted.

14 The consequence of manufacturing to the  
15 well-being of the equipment we under appreciate it.  
16 We have under appreciated no more. We are now going  
17 to look at it with a fine-tooth comb.

18 If you see our procedures on the checks we  
19 do, manufacturing now looms large as consequence of  
20 different evolutions. I would respectfully submit  
21 that that is not so in the industry at this time, it's  
22 not happening.

23 So basically the statement that I wanted  
24 to make is that the SSOs, they are robust under design  
25 basis loadings for the MPCs. These loadings are

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1 diametrical.

2           The load during manufacturing were  
3 circumferential and these things, these SSOs, are not  
4 strong against those loads and that's why they bent,  
5 okay.

6           That's the physical fact, that we did not  
7 foresee it. We did not foresee that problem. I  
8 readily admit to you that we showed our limitation,  
9 our technical limitation of whether it is unique to us  
10 or to the rest of the world, but I leave for you to  
11 decide.

12           But there has been -- This was definitely,  
13 definitely an eye-opener for us. We have learned big  
14 time how to treat manufacturing evolutions more  
15 respectfully.

16           Now our next item, Item 10, the basket  
17 shim assembly. Page 10, I mean. The basket shim  
18 assembly serves to position the fuel basket. What  
19 does it do? I am explaining to you here.

20           It serves to position the fuel basket  
21 inside the MPC. Its safety function is relatively  
22 minor. What does it do? It plays no role in  
23 reactivity control whatsoever.

24           Its contribution to radiation blockage is  
25 negligible. It's assistance in heat rejection as I

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1 said earlier is rather minor because the conduction  
2 that we will have had from it if it were a solid shim  
3 is significantly reduced because we make them hollow,  
4 but it's still valuable.

5 It is not zero and, therefore, that's why  
6 it's ITS-C. It does make some contribution. It also  
7 serves to provide a conformal contact between the  
8 shell and the basket profile because the basket  
9 profile is zigzagged and the shell is round.

10 It provides the -- It acts truly as a shim  
11 and joins the two. So that's the function of the  
12 basket shim assembly.

13 Now why are the SSOs, which are part of  
14 the basket shim assembly, their merit being classified  
15 as NITS? Because they don't provide, as you see in  
16 the middle of this slide, Page 11, they don't provide  
17 any meaningful radiation shielding or criticality  
18 control. Actually it provides zero shielding and  
19 criticality control.

20 And the results of FSAR compliant, meaning  
21 using the model approved in the SAR, using that model  
22 we have found, we have done thermal analysis and  
23 seismic analysis on loaded MPCs and we provide, the  
24 analyses provided definitive evidence that the SSOs  
25 lack a safety function and that's why the SSOs are not

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1 important to safety.

2 Every loaded MPC meets the entire set of  
3 regulatory safety criteria if all of its SSOs were  
4 absent altogether. I can't make a stronger case for  
5 a superfluous item.

6 Let's go to the next slide, 12. This  
7 slide speaks to your question, Michele, who  
8 identified. We identified this violation. It was  
9 identified by Holtec's site services team at SONGS and  
10 it was not an accidental finding either.

11 We have a program we call Site Acceptance  
12 Testing and Inspection Examination where we look for  
13 foreign materials before we load them and we found  
14 this broken one, broken shim during that inspection.

15 So this was part of our quality assurance  
16 program. It was not just a fortuitous act of God, we  
17 actually found it, and after finding it, yes, just to  
18 get you back, end of 2017 the SSO design has been  
19 introduced to the Engineering Change Order.

20 In February 2018 is when our site  
21 inspection team at SONGS found this broken SSO, one  
22 broken SSO. The next thing we did speaks very much to  
23 your criteria for enforcement action.

24 We asked all clients to perform focused  
25 inspection of every SSO-bearing MPC to ensure that all

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1 SSOs are intact prior to loading the canister. That  
2 was done immediately.

3 We made the headquarters, NRC  
4 headquarters, aware of the issue and provided regular  
5 updates and copies of all safety evaluations and  
6 answered questions from NRC staff. So this wasn't --  
7 This was totally transparent with you from day one.

8 Next slide, 13. Of course, the first  
9 thing you would do in a proper QA organization is to  
10 do a root cause evaluation, and we did the root cause  
11 evaluation immediately which included factory and site  
12 inspections of manufactured MPCs that were in the shop  
13 at the site.

14 We determined the statistical probability  
15 of SSO failure based on the data we had. We collected  
16 data on a large number of SSOs during manufacturing  
17 evolutions, and we performed safety analyses to assess  
18 the consequence of assuming a bounding assumption of  
19 failed SSOs and a comprehensive reappraisal of the  
20 procedures and practices.

21 All this was done working day and night  
22 right after this issue was identified and we  
23 identified numerous areas of improvement in our  
24 program that we included in our root cause evaluation  
25 report and we presented it to the NRC's inspection

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1 team in May of 2018.

2 We didn't stop there. We did additional  
3 corrective actions guided by NRC Information Notice-  
4 96-28. These corrective actions were defined purely  
5 in pursuit of operational excellence subsequent to  
6 NRC's visit and they have been, I inform you  
7 unequivocally, they have all been implemented already.

8 This is not in a long-term program, the  
9 implement. We have already implemented all the  
10 corrective action, immediate corrective actions and  
11 the ones that followed upon more thoughtful evaluation  
12 and analysis.

13 And just to give you a quick information  
14 on the statistics of the SSO-equipped MPCs, first of  
15 all the affected models are MPC-37, which are 37 PWR  
16 assemblies, and then MPC-68M, which are 68 BWR fuel  
17 assemblies.

18 At the time of the self-identified issue  
19 with the broken SSO 121 MPSS were equipped with SSOs.  
20 The table below you will see MPC-68M BWR have 22  
21 loaded, nine at Holtec's fabrication facility, and 28  
22 delivered but not loaded. MPC-27 has four loaded at  
23 SONGS and 26 at Holtec's fabrication facility and 32  
24 delivered but not loaded.

25 We, the only plants where we continued

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1 loading are the two BWR plants, correct me if I am  
2 wrong, two BWR plants, and these plants we determined  
3 that you don't need any of the SSOs. You can toss  
4 them out and they still meet all the requirements.

5 They comply with the CoC, not with some  
6 reduced thermal limit, which, by the way, your  
7 inspection says, that is factually not right, okay.  
8 Our MPCs could do fine indeed without these SSOs.

9 You can screw them off and they will be  
10 fine. They perform -- They meet all of the  
11 requirements of the certificate. Okay. So the SSO  
12 inspection census is we checked and documented over 50  
13 percent of all SSOs.

14 There were about 8400 of them. We checked  
15 4200 and we documented it. With others we checked and  
16 replaced as necessary, but based on the documented, if  
17 you just consider the ones that we inspected and  
18 documented, 0.12 percent were found broken, 0.12  
19 percent.

20 And 1.22 percent were found to have a  
21 slight bend and they were found both in peened MPCs,  
22 which were only for SONGS, and in un-peened ones,  
23 which were for everyone else.

24 So basically the conclusion based on as  
25 found conditions is that none of the basket shims have

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1 suffered failure of all of its SSOs, far from it.  
2 It's in the order of 1.2 percent and that's not  
3 failure, the bending is not failure.

4 We'll talk about it later. The real fail  
5 was 0.12 percent, which I think we will all agree is  
6 statistically insignificant where you have 88 of them  
7 in the canister and you are assuming that one out of  
8 three is not available in the design basis.

9 So clearly the failure was well, well  
10 within what we had engineered it for. We performed  
11 evaluation of a broken SSO in the MPC and we found  
12 that it had no safety impact in storage.

13 Going to Slide 16. We performed an  
14 immediate operability review and concluded that all 26  
15 loaded systems were safe and could continue to render  
16 their intended function without exceeding any  
17 regulatory limits, I emphasize any regulatory limits,  
18 under all applicable conditions of storage and  
19 transport.

20 There isn't an MPC loaded, a Holtec MPC  
21 loaded, anywhere that violates the CoC you have issued  
22 to us. None. Zero.

23 The thermal safety evaluation for the  
24 immediate operability review were based on an MPC's  
25 as-loaded heat loads under the overarching assumption

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1 that every SSO has failed and become inoperative.

2 The seismic analyses used a bounding  
3 earthquake that bounded the DBE of the plants which  
4 were executing loadings. It showed that if only one  
5 SSO remained functional out of three in each shim that  
6 will not get damaged, the SSO will not be damaged by  
7 the earthquake.

8 Now I am careful here, the language in  
9 this transparency is rather ambiguous, I should be  
10 clearer. The SSOs do nothing for earthquakes,  
11 nothing. They are not needed for earthquakes.

12 The real loading is transferred from the  
13 MPC basket through the shim, basket shim, and the  
14 wall, but there is no, these little shim stand-offs  
15 are, they are just spectators to the earthquake.

16 The don't really contribute anything and  
17 if they failed there would be no consequence. As a  
18 matter of fact if there were no SSOs the MPC  
19 structural extent would not be changed one bit.

20 So they truly are, other than providing a  
21 little oomph of thermal heat transfer they do nothing  
22 of value. They do nothing. And that is critical for  
23 all us to remember.

24 In all seismic analyses that we have done,  
25 we have done so many of them, I mean you have the

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1 reports, all of that has been done to see does  
2 anything happened to the fuel, does anything happen to  
3 the basket walls.

4 Of course nothing happens, you can see  
5 physically see in the return that it does not. So all  
6 we have done is to evaluate if we assume a certain  
7 number of SSOs have failed will the remaining ones  
8 fail also, and the answer is they don't fail.

9 For normal earthquakes you can only assume  
10 one available even for California's Coastal Commission  
11 Earthquake, we call it most severe earthquake, by the  
12 way it is the strongest earthquake.

13 It is stronger than this, too. It is  
14 strongest earthquake recorded by mankind anywhere.  
15 And even under that earthquake if you had the design  
16 basis two shims, two SSOs, it does not fail. That's  
17 the design basis, it does not fail.

18 So you can assume one, one has been lost,  
19 and every single shim, all 32 shims and there is  
20 still, shim stand-offs will not fail, and I must  
21 emphasize they have no consequence to the seismic  
22 performance for the vital elements in the MPC, which  
23 is the fuel and the basket cell walls, because they do  
24 participate in criticality in other activities.

25 So that is -- and I'm hoping, I hope, that

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1 the additional information I'm providing you is useful  
2 in reaching your conclusions. Because there is a lot  
3 of information here.

4 And some of it you will need to verify  
5 with your own experts, which we will greatly welcome.  
6 But I think at the end of the day you will conclude  
7 that you won't be in the sandbox, I am.

8 If we really have that problem, then I  
9 will not have made this presentation, I'd have one of  
10 the other guys do it.

11 But I see, I see that there is no problem  
12 at all. None for our customers, those who are using  
13 it or the system.

14 But we have replaced the design with what  
15 I call a monolithic shim. So there is no more  
16 standoffs. So, they will not be around, they are not  
17 going to be for anyone to kick them around.

18 But while we say we don't have them, there  
19 is no problem with them meeting the design basis  
20 loads, folks. No problem.

21 Because I have personally evaluated,  
22 checked people's, people's reports and calculations  
23 before I stand here and tell you this. Okay.

24 Now we're at SONGS, going to slide, Page  
25 17. SONGS MPCs. All four loaded MPCs at SONGS were

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1 reconfirmed to meet all applicable regulatory criteria  
2 for onsite storage and transport, under the assumption  
3 that only one SSO has been damaged in every basket  
4 shim.

5 Now, that by the way is, a statement could  
6 be made more strongly, I'm sorry, a statement can be  
7 made -- excuse me.

8 The statement can be made that the MPCs,  
9 SSOs, survive the most severe earthquake postulated.  
10 But if they failed, they don't have any consequence  
11 through safety function of the MPC.

12 So, if the actual statement could be much  
13 stronger than what's here. And in the revised draft,  
14 we will state that because this kind of gives the  
15 sense that perhaps they are necessary. They're not.  
16 They're not necessary.

17 And, basically, the evaluations for the  
18 SONGS MPC is summarized here on Page 17. It basically  
19 states what I've said to you many times already in  
20 this presentation.

21 Let's go on to the next one. There was a  
22 supplemental seismic analysis that NRC inspection team  
23 identified when they were there.

24 They said, hey, check it, if you assume  
25 that there are only two shim standards and they're

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1 both bent and evaluate whether the shims will survive.  
2 Shim standards will survive.

3 So we performed that calculation. And,  
4 again, found that they do survive. They remain  
5 intact.

6 Again, if they didn't, wouldn't matter  
7 that the MPC failed. It's just that they are not  
8 important if safety item failed. Okay.

9 So we have, by May of 2018, we have  
10 performed a large number of MPC seismic analyses to  
11 basically evaluate the performance of the SSOs.

12 And they're all documented and available  
13 to you. They were requested, both by our Holtec user  
14 group members, which our user group, as you know, it  
15 has about 60 members and they're not shy to ask  
16 questions.

17 So, questions they asked. They were also  
18 answered. And they are all in the documentation  
19 packages here.

20 Now, let's go to Page 19. Now we'll talk  
21 about thermal safety performance.

22 Again, the thermal analyses were performed  
23 under the non-credible conservative assumption that  
24 every SSO had vanished non-mechanistically. Somehow  
25 disappeared causing every basket shim to drop down and

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1 block the down-comer to bottom plenum flow.

2 Meaning, that the helium circulation has  
3 been completely arrested. With that assumption and  
4 using the licensing basis model that's approved by the  
5 NRC and our FSAR, we find that the design basis heat  
6 load of 36.9 kilowatt is met unconditionally. We meet  
7 the temperature limits.

8 And, the other parameters, the less  
9 important parameters, like MPC internal pressure  
10 helium and all, they are meet also.

11 In other words, assuming that every MPC  
12 SSO, and every MPC has completely disappeared, does  
13 not affect thermal conclusion at all. There's still  
14 plenty of margin.

15 Now, let's go to MPC-37 in UMAX. That's  
16 on Page 20.

17 We performed calculation based on a heat  
18 load. Again, assuming that every SSO has vanished.  
19 So all these shims are sitting on top of the MPC  
20 baseplate.

21 We found that at a heat load of 37.6  
22 kilowatt we meet all the regulator limits. All the  
23 limits. And by the way, they are permissible heat  
24 load in the HI-STORM UMAX CoC at 37.06. So we  
25 actually use a higher heat load than what is

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1 authorized under the current CoC.

2 This was done, I think, our thermal  
3 analyst became a little over exuberant. Took, used a  
4 larger number than he had to.

5 But the answer remains the same. That we  
6 meet the temperature limit and the pressure. And all  
7 other height of parameters with good margins.

8 Therefore, we can go to the summary on  
9 Page 21. Even though the inspections did not indicate  
10 even one basket shim to have dropped down to the  
11 baseplate because the failed SSOs supporting it, the  
12 thermal analysis was carried out assuming that every  
13 SSO and every shim has failed. Causing every shim to  
14 drop down to the baseplate, blocking the flow from the  
15 down-comer to the inlet plenum.

16 Even under this counterfactual assumption  
17 that every SSO has failed, the peak fuel cladding  
18 temperature, under the CoC limited heat load, remains  
19 below the ISG-11 Rev 3 limits for MPC-68M in HI-STROM  
20 100 and MPC-37 in HI-STROM UMAX.

21 In other words, the SSOs are irrelevant to  
22 the regulatory thermal compliance of the MPCs in both  
23 vertical ventilator modules involved here. They are  
24 irrelevant.

25 Now, if they're irrelevant, then I guess

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1 they're one category below NITS is in it. They are  
2 totally irrelevant.

3 And I will request to you to reconsider,  
4 this is one of the fundamental technical fillers that  
5 I request to you. This is not the SSOs I have, the  
6 MPCs have no use for them.

7 I mean, you know, for the ones -- now, if  
8 you went to higher heat loads in the future and  
9 needed, then it will be different. But right now, as  
10 matters stand, and we did not send a letter to the  
11 users as is stated in the inspection report asking  
12 them to limit the heat load.

13 We did not because there was no need for  
14 it, okay? So that also needs to be corrected. I will  
15 give you all the changes that we think you should make  
16 to align it with what actually has happened.

17 Now, Page 22, we say, SSO serve no role in  
18 structure compliance of the MPC. We say that because  
19 SSOs do not affect the seismic behavior of the MPCs.  
20 They are an importance, thereby they are important as  
21 a human fingernail is in the strength of the human  
22 muscle. They really have no structural contribution.

23 So, with that, I'll move on the next  
24 applicant. I'm not going to read every sentence here.  
25 I think you know where I'm at.

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1                   Now, Page 23 gives you the data on how the  
2                   SSOs perform, assuming a certain number of them has  
3                   been lost. Like one out of three lost. That would be  
4                   32 of them lost in a canister.

5                   MPC-37, we find that they will still meet  
6                   the earthquake, the monstrous earthquake of California  
7                   postulated.

8                   If two out of three were lost, just make  
9                   an empirical assumption, two out of three. Meaning,  
10                  64 out of 88 are lost.

11                  Even then, the remainder of them will not  
12                  fail under the earthquake. And I said, even if they  
13                  failed, they have no consequence on safety performance  
14                  of the canister.

15                  So that is the no MPC that is currently  
16                  loaded, needs to be modified. It meets the NRC CoC  
17                  and the regulations to the letter. There's no  
18                  violation at all.

19                  Now, having said that, while I defend it  
20                  to you, I am sensitive to the fact that you may think  
21                  that we don't take it seriously. That is not true at  
22                  all. We take it very, very seriously.

23                  Even though these things did not have a  
24                  safety consequence, they have a huge safety  
25                  consequence. They will have in the future, if we

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1 don't learn from these.

2 If we don't make changes someday,  
3 something actually safety significant will be  
4 affected. So, it's in that spirit that we are making  
5 a whole lot of changes, adding additional barriers,  
6 doing things in that in the future, whether it's a  
7 small and insidious matter or a significant matter, it  
8 will be caught. Or changed.

9 Here, in this case, thank goodness it was  
10 caught in our last barrier onsite inspection. We want  
11 it caught in the first barrier, which is when we do  
12 the initial design reviews. That's when we want it  
13 caught.

14 Okay. Let's go on to Page 25. Yes, on 24  
15 I just want to tell you, 16 additional MPCs were  
16 loaded. Ten of them at VY and six of them at Columbia  
17 Generating Station after they were reinspected,  
18 checked that they are the original damaged SSO.

19 And then of course, margins are in  
20 enormous. It is in the case of, there was no need to  
21 replace the SSOs, they are huge margins.

22 But the others that were not being loaded,  
23 if the client wanted them replaced, we replaced them.  
24 So, the ones that were in our shop, we replaced them.  
25 Those that we're loading later and therefore were not

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1 on the schedule, the immediate constraint, we replaced  
2 them. We replaced them with monolithic shims.

3 Now, that is, we replaced them, but even  
4 before replacing them, they met their CoC requirement  
5 in full measure. We replaced them anyway.

6 You know, a ton of people shout and say  
7 they see no good. You have to do things to basically  
8 eliminate these attacks. And some of the attack, as  
9 you know, in the social media has been vociferous. So  
10 we replaced it.

11 But there was no real technical reason to  
12 replace them. I guess that's important to make that  
13 distinction here.

14 Now, let's go to, let's make an assay of  
15 apparent Violation A. Violation A sites, Holtec fails  
16 to establish adequate design control measures as part  
17 of selection and review of suitability of application  
18 of alternate four inch shim standoff pins.

19 We determine it to be a deficiency in the  
20 design change process, which did not ensure  
21 manufacturing operations were considered and  
22 evaluated. I get back to the same point, the nexus  
23 between manufacturing and design has not been, at  
24 Holtec, as strong as it should be to ensure future  
25 failure of failures.

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1 I would readily concede to that because  
2 that is a fact. That will be the truthful thing to  
3 say.

4 So we accept the Violation A, but we posit  
5 that for the above reasons that we have given you so  
6 far, that this should be considered a minor violation,  
7 if you consider it a violation at all.

8 And the lifecycle of new design  
9 implementation, from design to manufacturing to site  
10 implementation, has three barriers, we know that. One  
11 is design review process, the other one is factory  
12 acceptance test. There's a typo here, we'll fix it  
13 later. And the third is site acceptance test.

14 In this particular case, the deviation,  
15 discrepancy or anomaly, call it what you will, was  
16 found inside acceptance histories. We wish it  
17 happened in the first design review phase.

18 That is, that's how we look at it as our  
19 challenge going forward. That these things get  
20 captured and fixed in the very beginning of the  
21 lifecycle of the product, not towards the end.

22 Okay, let's go to the next one, 26. We  
23 took a number of corrective actions. And that's one  
24 of your enforcement questions. So, we thought that  
25 we'd go to the slide to it, tell you what we did.

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1           The immediate corrective actions, while  
2           the operating procedures and practices succeeded in  
3           flagging the SSO anomaly, indicating the QA program  
4           worked as a whole, the root core evaluation indicated  
5           the pressing need to implement definitive corrective  
6           action to preclude occurrence.

7           And the following activity were completed  
8           as part of the corrective action. One, perform safety  
9           analysis of loaded units to ensure their safety. You  
10          have already heard this.

11          Two, we completed all applicable safety  
12          analysis packages for archival reference. And they're  
13          now available to you.

14          Three, we inspected all non-loaded units  
15          and identified necessary actions on a case-by-case  
16          basis to make sure they were in full compliance.

17          Three, we replaced SSOs with monolithic  
18          shim design in all applicable MPC's licensing and  
19          fabrication drawings and reconciled all analysis  
20          packages with the modified design.

21          We are no longer making shims with SSO, I  
22          guess you can surmise. But we have replaced the  
23          design and now we are using monolithic shim design.

24          Simply because they haven't identified so  
25          much, even though they do the job, they meet the

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1 requirements. But there has been so much ink wasted  
2 on them that we should, we simply got rid of it. So  
3 now we have monolithic shim designs.

4 And we have been using it now for several  
5 months. This is already in process.

6 Now, a strategy to preclude reoccurrence,  
7 Page 27, we want to preclude reoccurrence.  
8 Absolutely. I don't want to be here again talking  
9 about another enforcement, I don't want to hear from  
10 you in writing that we violated something, even if it  
11 is below reinforcement.

12 You know, we have been doing, we have been  
13 on NRC's triennial review going back over 30 years.  
14 We never had most of our, virtually all of them, many  
15 times you wrote complementary, NRC can only be only so  
16 complementary, there is a line you draw, but you  
17 certainly, certainly have been positive in your  
18 comments.

19 And this time, to go from there to this is  
20 very hurtful. And we have to take everything, adopt  
21 every measure possible that it never happens again.  
22 So this slide tells you what our strategy has been to  
23 ensure that it doesn't happen.

24 One, we have looked at a project design  
25 development, manufacturing and site implementation

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1 process, not just design control, to a critical  
2 reappraisal. Which mean leveraging the large body of  
3 condition reports, nonconformance reports, field  
4 condition reports accumulated over the past 30 years.

5 And we wanted to coax out of the many  
6 wisdom we can get to include in our review, our front  
7 review process. Not just on design control, but the  
8 interaction of design with manufacturing, interaction  
9 of design, which transportation of the equipment, they  
10 are heavy pieces of equipment, and you have to  
11 consider transportation also. And of course, site  
12 applications.

13 Every one of them we have looked at to see  
14 how we can improve our operating processes. Processes  
15 which, of course, are then embedded in procedures  
16 which allow our people to follow through and check  
17 every one of them.

18 Using, we have also worked to define  
19 problems that have not happened but might happen in  
20 the future. We are taking a, what I'll call a  
21 holistic view. What can happen.

22 That is not yet discovered, in the  
23 industry or by us. And we have implemented measures  
24 that would, that will protect us from that.

25 You know, I pause here to tell you, I

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1 touched on this before. The manufacturing is far  
2 more, far more complicated, an affair, that meets the  
3 eye.

4 There is, in the past three years, we have  
5 modified just a shell rolling process, and a butt-  
6 welding process, to significantly reduce residual  
7 stresses in the welds that will protect the canister  
8 down the road from stress corrosion and cracking.

9 And on the face of it, if you look at our  
10 canister or any other canister, they look the same.  
11 But we have reduced the surface stresses  
12 significantly.

13 We'll share with you details, but we have  
14 done it because we think, as a company that, among few  
15 companies that actually design and manufacture, we  
16 have an obligation to search across, across the entire  
17 lifecycle of the project, product, and come up with  
18 solutions so it does not happen.

19 You know, you take a simple operation like  
20 drilling. You drill a tube sheet, the drilling  
21 operation looks innocuous, it makes holes basically.

22 But the act of drilling, if you use the  
23 wrong kind of drilling process, you will bend that  
24 tube sheet. Because of compressive stresses exerted  
25 during.

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1           And if that happens, and you have, for  
2           example, a vertical unit, then your surface will no  
3           longer be horizontal, and it may not perform as well  
4           in service. And I took the simplest of operations  
5           drilling.

6           So, manufacturing is the elephant in the  
7           room. We need to consider it every single evolution  
8           and check it against design. That is what we are  
9           training our engineers to do. In other words, never  
10          again.

11          Okay. The next item, we have established  
12          a system in our place now where we have the design  
13          team and we have the critic team.

14          The design team, we call them the Red  
15          Team. I don't know why, they are not all Republicans,  
16          but we call them the Red Team. They're job is to be  
17          involved in the design development process.

18          And that includes manufacturing, experts,  
19          site services experts. In other words, this team  
20          ought to be able to develop designs that are free from  
21          manufacturing or site service errors.

22          And then we have the Blue Team, whose job  
23          is to critique. And they have to be only those people  
24          who are not members of the original design team. So  
25          they're not contaminated by the thought process.

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1           And we instituted that right after May.  
2           Right after your visit. So now, everything goes  
3           through. There is two, two independent teams and they  
4           check.

5           And I can tell you a lot of good things  
6           have come out of it. We have identified some very,  
7           very good things.

8           And another item we are doing, is we do  
9           more cross-discipline training. So, our people who  
10          are in the fox holes of thermal analysis and structure  
11          analysis, we try to cross train them more so they can  
12          see. They can see how one discipline impacts the  
13          other.

14          This is also important when you're doing  
15          a product development. A good product development.

16          Page 28. There is now initial design  
17          development, at least in the dry storage program, I  
18          require that the concept is presented to me first  
19          before it even goes to the Red Team process. To  
20          basically see if there are, and I have been doing this  
21          work for almost 50 years now, so I do make sure that  
22          I check them myself. And before that, it goes into  
23          Red Team and later Blue team reviews.

24          We have strengthened our questionnaire for  
25          the engineering change orders, design review drawings,

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1 to embed all the requirements for manufacturing  
2 considerations. So they get checked.

3 Not only are the teams encouraged, but  
4 they have to answer questionnaires that they have  
5 actually done it.

6 We, and this process will continue as we,  
7 from continuing operations to the wisdom we receive,  
8 we will embed. It's going to be a continuous  
9 feedback.

10 We are also, we have developed a formal  
11 protocol to quantify risk associated with design and  
12 process changes. If you're developing something new,  
13 a great risk there then there is if you're doing  
14 second or third of a kind.

15 So, if this is a new product, increased  
16 risk, the number of barriers and checks have been  
17 enormously increased.

18 And I keep repeating that it's not just  
19 manufacturing, we have site services. Actual loadings  
20 that are also part of the mix even though these, the  
21 violation does not address it.

22 Now, the next one, apparently Violation B,  
23 as I told you, we actually did do complete evaluation.  
24 We did not stop our screening when we introduced the  
25 shim standards.

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1           And later, by the way, when we do, we had  
2 two additional, maybe this is what confused you folks,  
3 we had two additional 72.48's that addressed the field  
4 discrepancy that we found. The discrepancy of VY and  
5 that SONGS, they were also put in the 72.48 process.  
6 And there we didn't go to full completion, okay.

7           That is, that's the difference. And I  
8 think we understood what you wanted to say we are  
9 taking it that way, but it ought to be fixed in the  
10 documents for future reference.

11           Because the item involved is not important  
12 to safety, I respectfully submit that this violation  
13 should be considered minor. Or sub-minor. Whatever  
14 you will, it certainly does not merit, I think, to be  
15 called a significant violation.

16           Now, next page, Page 30, the second bullet  
17 is important. We have provided remedial training on  
18 72.48 process implementation to our personnel. Those  
19 we've provided. A couple of them are sitting in the  
20 audience here.

21           We have also reinforced expectation to err  
22 on the side of conservatism when determining whether  
23 a 72.48 evolution, evaluation is needed versus  
24 screening only. There will be far more 72.48 full  
25 evaluation than screening in the future.

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1           Unless the change is so minor that they  
2           evidentially, and consequential, we will do 72.48 full  
3           evaluation in every case just to be not, get into this  
4           unclear territory.

5           Okay. We did do extent of conditions,  
6           Page 31. We did do extent of conditions and we found,  
7           first, we did full evaluation and we found the  
8           conclusions did not change for those two. They did  
9           not change. They have no safety significance.

10          And then we did extent of conditions. And  
11          we concluded that this was an isolated incident, it  
12          was nonrecurring. We reviewed all 72.48's going back  
13          three years. Give you the last previous clientele  
14          inspection. We didn't find any.

15          So, we can tell you that this was an  
16          isolated incident, if you call it a violation.  
17          Although you may reconsider calling it a violation.  
18          But if you do, there's an isolated event and it's  
19          certainly by the smells, it looks minor. If at all.

20          Okay. I am on Page 32. Synopsis of  
21          lessons learned. I'll go through it quickly.

22          We have made an intensive corporate effort  
23          to include nuances of manufacturing and site services  
24          in SSC's design development effort. And I have said  
25          this before, this here is in written words committing

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1 to you.

2 We intensify training the company  
3 personnel on the symbiotic relationship between design  
4 and manufacturing. Personnel must be given deep  
5 immersion and real-life manufacturing.

6 Now, you know, some of you know, that we  
7 put up a brand new manufacturing plant right next to  
8 our design office. The problem we suffered before,  
9 our people have to go 300 miles to Pittsburgh to  
10 receive the hardware. And that problem has been  
11 remedied. Now they can walk 200 feet and go see the  
12 equipment being made.

13 The idea is to make them a stakeholder in  
14 manufacturing. They don't know it yet, I want to  
15 require them to know how to weld also. But it is, the  
16 intention is to make our people full complete  
17 engineers for the product, not just specialists who  
18 are on the, focus in one area.

19 The third item is broaden this ECO 72.48  
20 process to include in-depth consideration of  
21 manufacturing and site operations. This has been  
22 lacking in our 72.48 and ECO questionnaires. As I  
23 have stated to you earlier, I think it's lacking  
24 industrywide.

25 The next item, increase the in-process

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1 review and critique of the following design decisions.  
2 That's where we have red team/blue team, and these are  
3 separate teams. One does not influence the other.

4 And, of course, continuously upgrade the  
5 procedures using lessons learned from continuing  
6 operations. Complacency is the enemy of quality. We  
7 want to continue driving.

8 So, we get to the summary now that you  
9 must be waiting for after my long monolog. As we have  
10 discussed in detail, our analysis shows that, assuming  
11 all SSOs fail and become inoperative, the loaded MPCs  
12 fulfill their intended function without exceeding any  
13 regulatory limits under all applicable conditions of  
14 storage and transport.

15 Two, hence, the SSOs play no role in the  
16 safety performance of loaded MPCs and can be correctly  
17 characterized as Not-Important-to-Safety item in the  
18 Basket Shim Assembly. And therefore, we accept the  
19 violations. While we accept them with equanimity, we  
20 believe that they entailed minor or no safety  
21 significance.

22 To prevent recurrence, Holtec has  
23 performed a stem-to-stern reappraisal of processes and  
24 operating procedures and made numerous improvements to  
25 prevent damage to equipment during handling in

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1 manufacturing and transport to the site and other  
2 similar activities outside the scope of normal safety  
3 analysis.

4 Now, getting to your side of the equation,  
5 we took a look at your Enforcement Manual, and it said  
6 the following conditions under which NRC will most  
7 likely not consider escalated enforcement actions. We  
8 reproduce them here.

9 One, "safety significance of the issue  
10 being minor". I would say it's either minor or sub-  
11 minor. It certainly is not more than minor.

12 Item 2, the "issue is self-identified by  
13 the licensee and promptly placed in licensee's  
14 Corrective Action Program". We have done that. It  
15 was self-identified by us, and we had promptly put it,  
16 immediately it in a root cause evaluation corrective  
17 action program.

18 Three, "licensee promptly completes Root  
19 Cause Analysis Report," which we did. This happened  
20 in March. We arrived in May. It was done and  
21 delivered to you to look at.

22 Item 4, "promptly completes all required  
23 corrective actions". We have not only completed all  
24 required corrective actions, we have gone way beyond  
25 that and looked at all future events that can possibly

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1 plague us and installed corrective actions. I think  
2 you will give us an A+ if you come back and take a  
3 look at it and what we have done.

4 And finally, the "issue was not caused by  
5 any willful actions." Well, I don't have to comment  
6 on that. You know it was not willful.

7 So, as the supplemental information  
8 provided in this presentation indicates, we fully meet  
9 every one of the above criteria in your Enforcement  
10 Manual.

11 That's the summary. Now here, the next  
12 slide, which is 35, this is as much for us as it is  
13 for everybody else in the industry and you, as the  
14 enforcer. We think the problem behind the SSO  
15 malfunction is a pervasive lack of knowledge in the  
16 industry regarding many collateral effects of  
17 manufacturing on the hardware's performance. This is  
18 pervasive. We own up to it. Yes, we have failed  
19 here. But, then, your people who are versed in  
20 manufacturing and know the industry I think will  
21 collaborate my statement that there is a general lack  
22 of expertise.

23 Okay. I would say with a slight  
24 diffidence that in your regulatory literature, NEI's  
25 guidance, and Holtec's own internal controls, the

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1 attention paid to the complex role played by  
2 fabrication processes has been inadequate. As I said,  
3 your NEI guidance document, which you have endorsed,  
4 doesn't even utter the word "manufacturing". So, this  
5 is something more for a general knowledge.

6 I think industry, you folks, I recommend,  
7 I request you lead in this area to try to look at the  
8 equipment in an organic whole, not just design  
9 control. It's manufacturing. It is site services.  
10 It's transportation. It's all of it. They should get  
11 their place in the sun, in the product development  
12 process.

13 Now our step -- and we have taken it to  
14 heart -- we are going to. I can promise you with as  
15 much certitude as I can, because I can't tell the  
16 future, but I can tell you that this kind of a problem  
17 which deals with design not properly vetted for  
18 manufacturing or site services will never happen  
19 again.

20 At Holtec it will never happen again. But  
21 it's a problem that can happen anywhere today. It is.  
22 It is. I know our industry and I know even the  
23 aerospace industry. It will happen because, overall,  
24 there is lack of emphasis on the nexus between  
25 manufacturing and design, not enough.

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1           Okay. At our place, we have begun a  
2 personnel training program to emphasize this message  
3 by examples, by showing how important it can be. We  
4 have expanded our design change execution and 72.48  
5 screening processes to integrate considerations to  
6 design, manufacturing, and site operations and their  
7 effect on each other. You will see that our ECO and  
8 72.48 questionnaires have been substantially beefed-  
9 up, and they are all loaded with questions probing the  
10 effect of manufacturing in the design, the backwards  
11 effect.

12           And I said before we have placed our  
13 engineers right next door to where the manufacturing  
14 is done, so they can learn by osmosis and by actual  
15 interaction with the shop people. This is part of our  
16 training process.

17           In conclusion, all loaded canisters with  
18 SSOs fully meet their CoC certifications, with no  
19 exceptions.

20           The SSOs in the loaded MPCs can be  
21 characterized as NITS. Their sole function is to add  
22 thermal margin by enhancing the MPC's heat generation  
23 rate. That's all they do.

24           That said, we accept your Notice of  
25 Violation, but our assessments show that their

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1 significance is not visible. They really don't in  
2 this case. I make a differentiation between this  
3 particular case and the weaknesses in our program that  
4 it has revealed. The weaknesses is where we are  
5 focusing to invest them for the future.

6 We accept the violation records of  
7 changes, but our full 72.48 evaluation did not screen  
8 to a higher significance. We went back and did the  
9 full evaluation, and it did not screen to a higher  
10 significance. So, even if we had done a full  
11 evaluation of these field observations -- the initial  
12 one was done, full evaluation -- if we had done it,  
13 the conclusion would not have been any different, and  
14 rightfully so.

15 And finally, Holtec has revamped and  
16 upgraded the entire array of processes and procedures,  
17 including those pertaining to project planning, design  
18 control, 72.49 screening and screening regimen, and  
19 this informed decisionmaking. We have revamped them  
20 completely.

21 Now I'm going to give you a couple -- last  
22 page, this is the very last slide -- I'm going to give  
23 you a couple of little NITS. Look, anybody who  
24 prepares a document like this with just so many  
25 facets, there's going to be some discrepancies. Okay?

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1 We have not established yet that we are God or you are  
2 God. You're going to have some errors, some  
3 discrepancies. And I'm just going to point out a  
4 couple to you, not to emphasize them, but it is  
5 necessary.

6 I think I'll recommend that you amend your  
7 document with the factual changes that's necessary to  
8 them, just like we will amend this document, this  
9 presentation, and give it to you, based on what we  
10 learned from you that we may not have covered  
11 completely. So, there is an official authoritative  
12 detail for you and from us going forward.

13 Now pointing to Violation A, Enclosure 1  
14 says SSOs support the Fuel Basket. They don't. They  
15 don't support the Fuel Basket. They support the Shim.  
16 Okay. So, that statement, you know, we understand  
17 that it is not a vitally important statement, but it's  
18 good to fix it, so it does not stand on its own.

19 Enclosure 2 says that Holtec informed  
20 licensees to limit the heat load below NRC approved  
21 limits. Not true. We did not and there was no need  
22 for such a notification. And we did not make this  
23 notification. This may have factored in your  
24 enforcement action thought process. So, this is  
25 important. Okay?

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1           On Violation B, Enclosure 1 states that,  
2           for the design change for the SSOs, "Holtec completed  
3           a 72.48 screening and incorrectly determined that a  
4           written evaluation was not needed." As you know, as  
5           I told you, we did do full evaluation.

6           And I should conclude by stating -- and  
7           there are many other small NITS that we will give you;  
8           we'll just mark it up and give it to you. You know,  
9           this is not important to the discussion here.

10           But the loaded canisters, I want to tell  
11           to you folks and anybody listening in, the loaded  
12           canisters do not, and never have, posed any risk to  
13           public health and safety, as is being incorrectly and  
14           continuously alleged by certain activists in the  
15           social media. We regret such canards because they are  
16           without any facts and they're inflammatory.

17           Thank you.

18           MR. LAYTON: Thank you, Dr. Singh.

19           Is there a need for any broad clarifying  
20           questions from the NRC panel/staff before we adjourn  
21           for our caucus?

22           (No response.)

23           We thank you. And again, Dr. Singh, thank  
24           you very much for the detailed explanation that you  
25           provided in the presentation.

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1           We'll now go off the record and take a  
2 short recess to allow NRC to briefly caucus.

3           For the folks that are on the conference  
4 line, please stay on the conference line. As soon as  
5 the NRC completes our caucus, we'll rejoin the  
6 conference line and resume the predecisional  
7 enforcement conference.

8           So, we'll now take a break for the caucus.  
9           Thank you.

10           (Whereupon, the foregoing matter went off  
11 the record at 2:43 p.m. and went back on the record at  
12 3:28 p.m.)

13           MR. LAYTON: We are going to go back on  
14 the record.

15           And the NRC staff has a couple of  
16 clarifying questions that we would like to ask Holtec  
17 as part of the predecisional enforcement conference.

18           THE OPERATOR: Thank you very much, Mr.  
19 Layton.

20           And you are live. Your guests are in  
21 conference with you at this time.

22           MR. LAYTON: Okay. Thank you.

23           THE OPERATOR: You're welcome.

24           MR. LAYTON: Okay. Again, thank you for  
25 the presentation. There are a couple of

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1 clarifications on things that we've seen in the slides  
2 and, also, what we heard in your statements. And  
3 recognize we're not requesting you submit information  
4 to us, but if you think it's going to be helpful to  
5 your explanations, we would encourage you to provide  
6 additional information.

7 So, to make it a little bit easier, I'm  
8 going to refer back, because I've put all my notes on  
9 the pages of the presentations.

10 Early in the introduction to the  
11 presentation, Dr. Singh -- and I want to make sure  
12 that I heard correctly -- you said that yesterday  
13 Holtec sent all pertinent information to NRC. And I  
14 want to make sure I'm clear. Do you mean that the  
15 presentation information was sent yesterday or was  
16 there other information that was sent to us?

17 MS. MANZIONE: Yes, Mike, we went you a  
18 letter with attached information on structural  
19 analysis, thermal analysis, and 72.48s, and then, the  
20 appropriate proprietary withholding information. I  
21 have a copy, if you would like me to hand it to you.  
22 But we sent it through your document control, through  
23 the appropriate processes.

24 MR. LAYTON: Thank you. So, you confirmed  
25 that I don't miss things when I'm listening. Thank

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1 you. If you have a copy of the transmittal letter, if  
2 you can give that to us now, that will be adequate,  
3 and then, we can look for it. I do appreciate that.  
4 Thank you.

5 Also, if you wish, can you provide the  
6 Final Root Cause Analysis that you described in your  
7 presentation that includes the corrective actions for  
8 our consideration?

9 DR. SINGH: Of course we will. Of course  
10 we will. Thank you.

11 We will also provide you this presentation  
12 with some of the NITS that we found, you know, just  
13 going through it.

14 MR. LAYTON: Okay.

15 DR. SINGH: So, it will be final, pure,  
16 and pristine for your use.

17 MR. LAYTON: Okay. Thank you.

18 DR. SINGH: And we would, subject to your  
19 approval, send you a marked-up copy of your Inspection  
20 Report where we think some of the material may not be  
21 quite --

22 MR. LAYTON: We'll accept that. We're not  
23 requesting, or I'm not sure what action we'll take on  
24 it, but we'll certainly accept it and we appreciate  
25 it.

1 DR. SINGH: Beside the revised draft, it  
2 will be helpful.

3 MR. LAYTON: Yes. Thank you.

4 DR. SINGH: Okay.

5 MR. LAYTON: And throughout your  
6 presentation, you refer to some analyses and, then,  
7 also a report or two. And I reference, I think, slide  
8 19. Let me get to that point. Slide 19 on thermal  
9 analysis. And on slide 20, you reference a Holtec  
10 HI2188123 report.

11 DR. SINGH: Uh-hum.

12 MR. LAYTON: And if you think those would  
13 assist in consideration of our decision, if you would  
14 provide those if you think they're appropriate?

15 MS. MANZIONE: The thermal report is an  
16 attachment to the submittal letter we sent you  
17 yesterday.

18 MR. LAYTON: Thank you.

19 DR. SINGH: And how about the other one,  
20 the structural?

21 MS. MANZIONE: Yes, the structural report  
22 is also there, and there's a couple of other things,  
23 but that specific number that's referenced in the  
24 presentation is an attachment.

25 MR. LAYTON: Very good. Thank you.

1 DR. SINGH: And they will simply  
2 substantiate the statements made here. They don't  
3 provide new information by way of suitability of the  
4 -- they basically provide the substantiating  
5 calculations --

6 MR. LAYTON: Okay.

7 DR. SINGH: -- that stand behind the  
8 statements made here.

9 MR. LAYTON: And then, many of us also  
10 understood that in the early parts of the inspection  
11 and evaluation, we understood that there was some  
12 communication to licensees regarding the limit of  
13 thermal loading, based on the shim analyses. And in  
14 your presentation, I thought I heard that you said  
15 that there was no such communication. Could you  
16 clarify that for us, so we just have a clear  
17 understanding?

18 MR. TINDAL: So, that's correct. We did  
19 not limit the thermal capacity of the system.  
20 Immediately upon discovery, we notified the users.  
21 What we did do was an operability review for the  
22 loaded systems with the current heat loads to perform  
23 the safety, to validate the safety function of the  
24 canisters for what was already in storage. But we did  
25 not limit any heat capacity of the systems. And we

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1 can provide that communication to the Users Group, to  
2 you guys, as a supplemental information.

3 MR. LAYTON: Well, if you think it will be  
4 helpful.

5 And I believe what Kim has already said,  
6 evaluations on the 72.48 for our consideration have  
7 already been included in the transmittal letter.

8 I'm going to look at our NRC staff. Is  
9 there anything that I missed or mischaracterized or  
10 something else that we should identify?

11 DR. SINGH: Yes, we should. We should  
12 also tell you that we provided you a two-page memo  
13 that we showed to Holtec User Group, that we sent to  
14 our User Group giving our position in this matter.

15 We have also provided that to the NRC. Is  
16 that right, Kim?

17 DR. ANTON: Yes, we have provided that,  
18 but I don't think we have provided that formally. So,  
19 we might do that.

20 DR. SINGH: We should share that with you.

21 DR. ANTON: We will surely share that, to  
22 put that on the record. I think we did that just  
23 informally, yes.

24 MR. LAYTON: Okay. Jorge, would you go to  
25 the microphone, please?

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1 MR. SOLIS: You mentioned a thermal  
2 analysis report. I mean, if they wish to provide the  
3 analysis themselves, that would be very helpful.

4 DR. SINGH: Surely.

5 MR. SOLIS: Right.

6 DR. SINGH: Yes. I think we already have,  
7 haven't we, Kim?

8 MR. LAYTON: Yes, I think Kim indicated  
9 that that's part of the package that was just sent to  
10 us.

11 MS. MANZIONE: You can see the attachment  
12 is that. But just to clarify --

13 MR. SOLIS: That will probably not be  
14 sufficient for me.

15 MS. MANZIONE: You're talking about input  
16 and output-type analysis?

17 MR. SOLIS: Actual analysis. That's  
18 right.

19 MS. MANZIONE: All right. Understood.

20 MR. LAYTON: Again, that's if you think it  
21 would be helpful.

22 DR. SINGH: Give them everything.

23 MR. LAYTON: Well, hold on. Hold on.

24 (Laughter.)

25 Hold on. We're not requesting

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1 everything --

2 DR. SINGH: Okay.

3 MR. LAYTON: -- because we have a time  
4 goal for this evaluation, and we're not going to do a  
5 complete re-review of the certificate. We're not  
6 going to do a complete re-review of the inspection.  
7 We're only providing you an opportunity to provide us  
8 what information you think will help us to make an  
9 informed enforcement decision.

10 DR. SINGH: Understand. I will not swamp  
11 you with paper. Okay. Understand.

12 MR. LAYTON: Is there anything else to  
13 include from NRC staff?

14 (No response.)

15 So, with that, I'll enter in my closing  
16 remarks. In closing to this predecisional enforcement  
17 conference, I note that the NRC will consider the  
18 information we obtained here today in making the  
19 enforcement decision and, also, information that you  
20 provided under separate cover or will provide under  
21 separate cover. And we'll notify you by telephone and  
22 in writing when we are ready to announce our decision.

23 I remind everyone that the apparent  
24 violations discussed at this conference are subject to  
25 further review, and it may be revised prior to any

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1 resulting enforcement action; and that the statements  
2 or expressions of opinion made by NRC employees at  
3 this conference, or the lack thereof, are not intended  
4 to represent a final Agency position or determination.

5 With that, this conference is closed. We  
6 are now off the record.

7 For the people on the phone, we'll open  
8 the phone lines for comments very shortly.

9 (Whereupon, the foregoing matter went off  
10 the record at 3:37 p.m. and went back on the record at  
11 3:38 p.m.)

12 MR. LAYTON: Okay. We're going to move  
13 into the comments from the public portion of today's  
14 meeting. But, before I open the floor to any comments  
15 from the public, I would like to clarify that the NRC  
16 does not believe that there is an imminent safety  
17 threat with the canisters that are currently loaded  
18 with the standoff pins. Additional review of these  
19 canisters may be warranted, based on the outcome of  
20 NRC's review of these apparent violations and the  
21 information that we receive.

22 Fran?

23 THE OPERATOR: Yes, sir, I understand  
24 we're ready for Q&A from the public.

25 MR. LAYTON: We are.

1 THE OPERATOR: If you'd like to ask a  
2 question over the telephone, please press \*1, unmute  
3 your phone, and record your name clearly, please, when  
4 prompted. Your name is needed to introduce your  
5 question. If you decide to withdraw that request,  
6 press \*2. But, again, to ask a question, please press  
7 \*, then 1, and record your name.

8 One moment, please, for our first  
9 question.

10 (Pause.)

11 Our first request is from Nana Vadiar.

12 Ma'am, your line is open now.

13 MS. VADIAR: Thank you.

14 According to the NRC's own Executive  
15 Summary, Holtec is in violation of their NRC license  
16 requirements. Therefore, the four buried cans at San  
17 Onofre create, quote/unquote, "a possibility of a  
18 malfunction of a different result than any previously  
19 evaluated in the Final Safety Analysis Report, FSAR".  
20 Unquote.

21 At San Onofre, this equates to three  
22 possible malfunction results: (a) broken shims; (b)  
23 broken shims that impede fuel assembly cooling; (c)  
24 overheated fuel assemblies resulting in a radioactive  
25 release.

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1           Since this defective system is in  
2 violation of 10 CFR 72.48, will NRC consider taking  
3 decisive correction action to require Holtec to  
4 retrieve and inspect those cans with the affected  
5 shims at Vermont Yankee and, also, San Onofre?

6           Thank you.

7           MR. LAYTON: Yes, this is Mike Layton.

8           Thank you for the question and the  
9 comments.

10           The purpose of this panel, the  
11 predecisional enforcement panel, and the following  
12 decisions that will happen based on what we determine  
13 from the evaluation, the information that we get from  
14 Holtec, is designed to provide the significance of the  
15 safety issues and, also, whether there are any  
16 followup actions that need to be taken.

17           The items that you identified in your  
18 comment and questions are ones that we are very  
19 interested in evaluating as part of our enforcement  
20 process that we're currently in. So, I would offer  
21 that the outcomes of our deliberation and our  
22 enforcement decision will be made public, and if you  
23 have any further comments after we finish our  
24 enforcement process, to please let us know and bring  
25 them forward.

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1 We had a question in the room?

2 MR. GUNTER: Thank you.

3 My name is Paul Gunter, and I'm with  
4 Beyond Nuclear. We're a public interest group in  
5 Takoma Park, Maryland.

6 So, the question I have for NRC has to do  
7 with your deliberative process for escalated  
8 enforcement action and how the Agency is factoring any  
9 previous or subsequent violations by Holtec. And in  
10 specific, I'm referencing EA 18.155, which has to do  
11 with SONGS cask downloading, and the fact that there  
12 were three Level IV violations involving frequent cask  
13 loading incidents and the failure to identify adverse  
14 conditions, failure to adequate program training,  
15 failure for proficiency in training, and failures for  
16 certifications of individuals involved in the cask  
17 downloading operations. It also involved failure to  
18 provide adequate procedures for dry cask downloading  
19 operations and, in fact, disabling of important safety  
20 procedures, and failure to timely report violations to  
21 the NRC within the required 24-hour period.

22 So, how does the Agency incorporate in its  
23 enforced action, you know, escalated enforcement  
24 action, such things as how EA 18.151 and EA 18.155 are  
25 related, possibly related, particularly in terms of a

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1 pattern of behavior? So, I guess one of the  
2 questions, if you would, please, just inform me where  
3 the status of EA 18.155 is and how you could possibly  
4 or if there's need to incorporate it in your current  
5 decision?

6 MR. LAYTON: Okay. Thank you, Mr. Gunter.

7 Off the top of my head, the EA that you're  
8 referring to is the misalignment at SONGS, is that  
9 correct?

10 MR. GUNTER: Correct.

11 MR. LAYTON: There's one clarification  
12 that needs to be made from what you read. The  
13 inspection and the activities in that enforcement  
14 action are directed at the licensee, Southern  
15 California Edison, not Holtec.

16 So, from the standpoint of your question  
17 about how that will be considered in this enforcement  
18 action, we are focused on the two violations that were  
19 cited in the inspection at Holtec's facility. The  
20 enforcement action of which you're referencing is  
21 going to occur on a separate path, where I believe  
22 there will be a pre-enforcement conference associated  
23 with that enforcement action. I don't know offhand  
24 whether it's been scheduled or not, but I know that  
25 they're very close to probably doing the press release

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1 on the timing for that enforcement action.

2 MR. GUNTER: Okay. I did note in the  
3 enforcement action from 18.155 that both the licensee  
4 and Holtec were involved and related in the  
5 downloading anomalies that resulted in these frequent  
6 contacts between the silo wall and the cask  
7 downloading. So, I appreciate your making its  
8 distinction, but -- so, I'm to understand that only,  
9 in what you're saying now, only the SONGS operator is  
10 involved in that particular enforcement proceeding?

11 MR. LAYTON: Right. Just to be clear  
12 again, the focus of that enforcement action is the  
13 licensee, Southern California Edison. Holtec is an  
14 operator contractor contracted to Southern California  
15 Edison. The way that NRC views responsibility, is the  
16 best way I can frame it, for actions that occur at a  
17 licensed facility is the licensee is the one who is  
18 responsible for that.

19 So, if there are corrective actions that  
20 have to come, that result from that enforcement  
21 action, it will be incumbent on Southern California  
22 Edison to do those corrective actions. If there are  
23 learnings or things that Southern California Edison,  
24 in particular, would like Holtec to make adjustments  
25 or improvements in how they are performing their

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1 contract with Southern California Edison, that is at  
2 the discretion and the decision of the licensee.

3 MR. GUNTER: Okay. Thank you.

4 MR. LAYTON: Are there any other questions  
5 on the phone?

6 THE OPERATOR: We have right now six over  
7 the phone line. So, I'll move on.

8 Our next is from Gary Headrick of San  
9 Clemente Green.

10 Sir, your line is open.

11 MR. HEADRICK: Yes. Hello. Yes. I'm in  
12 charge of San Clemente Green, which is representing  
13 about 5,000 concerned citizens living near San Onofre.

14 And I just have to start by saying I'm  
15 pretty offended by the remarks Dr. Singh ended his  
16 comments with about the activists. And we're just  
17 concerned citizens, first off. You know, we listen to  
18 an admiral of the Navy who's pro-nuclear, and he's  
19 concerned about the way nuclear waste is being  
20 handled. We are listening to physicists and  
21 engineers, and we don't claim to be experts, but we're  
22 unpaid concerned citizens combating the efforts of a  
23 for-profit corporation that's being reckless with our  
24 lives and our livelihoods. So, you know, I think he  
25 should back off on blaming us. This is not a social

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1 media problem; it's incompetence on his part.

2 MR. LAYTON: So, Gary, I appreciate your  
3 comment. Could you focus your comments to the NRC and  
4 on this proceeding, please?

5 MR. HEADRICK: Sure. There is a  
6 whistleblower or a concerned employee that contacted  
7 us about contractual incentive built in for a  
8 financial incentive for Holtec to complete the job  
9 sooner rather than later. And I talked to Tom  
10 Palmisano at Edison about this, and he could not  
11 confirm or deny it. Will the NRC look into that?  
12 Because it is not proprietary information, as Tom  
13 Palmisano responded. But I'd like to know if there is  
14 an incentive for them to rush through these things and  
15 make the kind of mistakes they're making, if the NRC  
16 will look into it and prohibit that kind of  
17 contractual agreement.

18 MR. LAYTON: That's a very good question.

19 MR. HEADRICK: Well, that's how mistakes  
20 like these faulty shim pins are created. I think it's  
21 relevant to this topic.

22 MR. LAYTON: No, I appreciate your  
23 pointing that out and your comment and concern. What  
24 I need to do to clarify as to what the role of NRC is,  
25 is really, as you're well aware, because we've had

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1 many conversations in the past, that NRC is focused on  
2 the safety of the operations. To the point where we,  
3 as you suggest, that we would get involved in looking  
4 at contractual arrangements between licensees and  
5 their subcontractors or any contractual arrangement  
6 with any licensee, that isn't something that NRC would  
7 get involved in. Where we would be very interested is  
8 if there turns out to be safety issues or safety  
9 concerns that result from, I would say, poor  
10 implementation of work habits or things like that that  
11 have a result in a safety finding.

12 MR. HEADRICK: Well, this is only the  
13 first incident that we're discussing about the pins.  
14 You know, they almost dropped a canister. There's a  
15 pattern of ineptness that's all design-based. It's  
16 Holtec's issues. They're gouging canisters as they're  
17 lowering. This is not a manufacturing problem. It's  
18 a design problem. And I would expect the NRC to  
19 protect the public. Even if it's a little bit out of  
20 your jurisdiction, you should be concerned, as I am,  
21 about contractual incentives that may create  
22 opportunities for errors. So, I don't understand why  
23 you're limiting yourself.

24 MR. LAYTON: No, I appreciate -- again, I  
25 appreciate your view. And from the standpoint of

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1 things that are within our view and what we are  
2 concerned about in protecting the public, we are  
3 concerned about protecting the public. That is the  
4 DNA of our mission. We focus on the activities and  
5 whether there is any safety risk or potential safety  
6 risk to the public.

7           Going in, from our perspective, and trying  
8 to regulate contracting is not part of what this  
9 Agency does. If activities result in safety findings  
10 and potential safety risks, we will evaluate those and  
11 we will take actions.

12           From the standpoint, I think what you're  
13 alluding to, of identification of several types of  
14 activities that are now in enforcement, those are  
15 things that do get the consideration -- and I'll defer  
16 to our Office Enforcement Coordinator -- that they do  
17 not necessarily go unviewed or undiscussed or  
18 unevaluated within NRC.

19           MS. BURGESS: This is Michele Burgess.

20           I just want to make a general statement.  
21 Mr. Layton's been speaking specifically of the Holtec  
22 process, but I just wanted to raise just a general  
23 thing. If there is a concern that is raised or you  
24 have a concern, we do have processes within the NRC  
25 for you to be able to put those on the table for NRC

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1 evaluations. We have an allegations process, and you  
2 can submit that to an allegations process and it would  
3 be reviewed.

4 What Mr. Layton is talking about is  
5 anything that we've identified and it's resulted in a  
6 violation or an apparent violation, we handle it  
7 through the enforcement process. And if it hasn't  
8 resulted in a safety issue that is an actual violation  
9 of NRC requirements, then we can enforce, we can take  
10 on enforcement action. That's to disposition things  
11 that have been determined to be violations.

12 So, the space that you perhaps might be  
13 talking about is our allegations space, and there is  
14 a process for that. On the NRC website, there on our  
15 public website, there are mechanisms where you could  
16 submit those concerns and they can be evaluated.

17 Did that address what you're asking for?

18 THE OPERATOR: I have removed him from  
19 queue since we have another handful in queue.

20 MS. BURGESS: Okay.

21 THE OPERATOR: Do you want me to readdress  
22 that?

23 MR. LAYTON: No. Just proceed with  
24 additional folks that have questions, please.

25 THE OPERATOR: Our next up at bat here is

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1 Donna Gilmore of San Onofre Safety.

2 Ma'am, your line is open.

3 MS. GILMORE: Okay. Thank you very much.

4 Hi, Kris.

5 One of the things the NRC said in their  
6 presentation is that you look at this in line of other  
7 violations, that type of thing. I think this is a  
8 perfect time to do that.

9 Well, No. 1, the four canisters loaded at  
10 San Onofre, Tom Palmisano admitted that the inside of  
11 those, the inside bottom of those were not inspected.  
12 They didn't have the tools to even do that inspection.  
13 So, I raise this as an issue for the NRC. Were the  
14 inside bottoms of all the canisters loaded with the  
15 defective shims, were they inspected, the bottoms  
16 inspected? Because they weren't at San Onofre. Tom  
17 said he didn't have the tools to do it. And I know  
18 that's a requirement of the NRC, that before you fill  
19 a canister, you're supposed to inspect it thoroughly  
20 inside and outside. So, that's one issue I think  
21 that's related here.

22 Another issue is the NRC admitted every  
23 single canister loaded at San Onofre is unavoidably  
24 being gouged. There's only a quarter-inch clearance  
25 between the canister wall and a steel guide ring

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1 protruding out in the center. This is an engineering  
2 design issue that should apply to Holtec, not just to  
3 their design. You know, places where they deviated  
4 from the design need to be considered in this, in what  
5 you're looking at now because it's all related to an  
6 endemic problem of Holtec of bad, inferior engineering  
7 design and a flagrant disregard for NRC regulations,  
8 where they do better to ask forgiveness than  
9 permission.

10 And I have sympathy for the NRC's position  
11 here. I know you have a lot of good engineers that  
12 are doing the best they can, and Holtec does not make  
13 that easy.

14 Thank you.

15 MR. LAYTON: Okay. Thanks for your  
16 comments, Donna. And again, as I indicated to the  
17 first caller, much of what you bring forward in  
18 reference to SONGS is really more, pertains more to  
19 the enforcement action on the misalignment. So,  
20 again, that will be going through its own enforcement  
21 process, and I believe there is going to be a  
22 predecisional enforcement conference for that  
23 enforcement. So, I would encourage you to watch the  
24 press releases of when that's indicated that that's  
25 going to occur.

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1 Are there any more questions?

2 THE OPERATOR: We have five more at this  
3 time.

4 MR. LAYTON: Sure.

5 THE OPERATOR: Bill Weigel, your line is  
6 open now. You may ask your question.

7 MR. WEIGEL: Thank you.

8 I have a question regarding the admission  
9 today by Dr. Singh and Holtec on the record of their  
10 manufacturing incompetence and subsequent equipment  
11 failure, and the fact that the NRC Charter contains a  
12 pledge to protect public safety. I'm curious how the  
13 NRC can allow for the public to be exposed to Holtec's  
14 real-time experiment of unproven design that at  
15 anytime could potentially cause failures that would  
16 lead to the potential loss of life or property of  
17 millions of people.

18 And also, if the NRC is aware and  
19 comfortable with the fact that they can become liable  
20 as individuals for suits against public officials in  
21 their individual capacity, per Title 42 USC, the  
22 Public Health and Welfare, Subsection 1983, which  
23 imposes liability without defense on state and local  
24 officials who, acting under color of law in their  
25 individual capacity, deprive plaintiffs. Plaintiffs

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1 have rights created by the Constitution and federal  
2 law, of which the 14th Amendment guarantees life,  
3 liberty, and property. If there was an event that  
4 would lead to the loss of any of these items, that's  
5 what's on the line.

6 And as a Southern California resident, I  
7 would like to know how we can file for an immediate  
8 cease and desist on this criminally negligent project  
9 and pursue the element of safety jurisdiction from the  
10 California Coastal Commission permit that was issued  
11 on 10/12/15, of which they rejected an attempt to have  
12 the permit rejected because they are not in charge of  
13 the jurisdiction of the safety element, which the NRC  
14 is in charge of.

15 And if the NRC is not in charge of onsite  
16 safety for contractor practices, who is and who can we  
17 contact regarding these recent failures? Or are we  
18 allowing the open air conflict of interest to have a  
19 for-profit corporation police itself while it's  
20 clearly demonstrating criminal negligence?

21 MR. LAYTON: I appreciate your prepared  
22 comments, Bill. I'm going to turn -- I believe there  
23 is one question in there on how you can intervene or  
24 provide a question to the NRC. And I'm going to turn  
25 it over to Michele Burgess to let you know.

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1 MS. BURGESS: This is Michele Burgess.

2 There were a number of questions in there.

3 One of them was how you could request us to take  
4 action. And we do have a process. It's within 2.206,  
5 10 CFR 2.206, and it provides a process for you to  
6 make such requests.

7 MR. WEIGEL: I also was wanting a  
8 clarification based upon the Charter for the Nuclear  
9 Regulatory Commission and its pledge to protect public  
10 safety, how they can be acting in good faith upon that  
11 pledge, given the admissions on the record today by  
12 Dr. Singh and Holtec of manufacturing incompetence,  
13 and how there can be any trust given to them at this  
14 point to not have a further lurking problem that could  
15 be realized in real time which could cause a  
16 disastrous event in Southern California, irreversibly  
17 depriving people of life, liberty, and property.

18 MS. BURGESS: To recap some of the things  
19 we've said before and our process, the stage that  
20 we're at in our process is information gathering. Mr.  
21 Layton specifically said that, at this point in time,  
22 we don't see an immediate health and safety issue that  
23 requires an immediate order. What that means is  
24 that's not to say that there isn't a concern, but it's  
25 just a concern that we can allow our due process to

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1 play itself out. That's what we're in the process of  
2 right now.

3 So, as we're taking the information that  
4 we've collected so far in inspection, the additional  
5 information that's been provided today included the  
6 statements that you've referenced. We're going to be  
7 taking all of that into consideration for our final  
8 action.

9 MR. LAYTON: Thank you.

10 Fran, can we have the next question,  
11 please?

12 THE OPERATOR: Yes. Raymond Lutz with  
13 Citizens' Oversight, your line is now open.

14 MR. LUTZ: Yes, thank you very much.

15 I have been following the San Onofre  
16 situation here.

17 But, first, let me just say that I'm a  
18 little bit disturbed that public comments are not  
19 included in the official record of your meeting.

20 And also, I'd like to complain that your  
21 notices for this meeting were very difficult to get  
22 the information for when the meeting was going to be,  
23 what number to call, and where to go, and that the  
24 time on the webinar website does not have the time  
25 zone. So, it's very hard to know what time that

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1 actually represents. Apparently, it changes based on  
2 where you are.

3 Now today, we heard, we learned about the  
4 fact that Holtec had made this change and not notified  
5 the NRC about it in advance. And this is the largest  
6 concern here. And we also heard Mr. Singh admit that  
7 there were, quote, "many other changes," unquote, made  
8 to their process, such as the bottom plate, how it  
9 mates with the shell, and I guess some of the welding  
10 there.

11 And at this point, because they changed  
12 the design so radically with regard to these shims by  
13 changing completely the design and putting these pins  
14 in the bottom, which obviously would bend over any  
15 kind of handling, how many other things have been  
16 changed in this design that Holtec is not telling us  
17 about? I think this warrants a full review of these  
18 various many other changes that Mr. Singh admits to.  
19 We need to find out where we stand with regard to  
20 these changes that were being made.

21 And we know this is also -- and I hate to  
22 bring this up because you said the errors in loading  
23 these into the holes is a separate thing, but I beg to  
24 differ. This is the same dry cask storage system that  
25 we're talking about. It's all one system. And you've

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1 now decided to split it up and say that the shim issue  
2 is not the same as the dropped canister issue. And  
3 they, for some reason in the dropped canister issue  
4 area, have decided that there's no design issues at  
5 all, and it all has to do with handling of by SCE  
6 rather than a design issue.

7 Well, how many design changes did Holtec  
8 make to other aspects of this system, not just the  
9 pins, but other things such as that retainer guide  
10 ring, as they're calling it? Was that a change? And  
11 did you guys approve that in advance or was it  
12 something that they just did behind closed door?

13 So, I'm going to request that you make a  
14 full review of this cask storage system and not  
15 breaking it up amongst these various discrepancies  
16 that you've found so far and putting those into  
17 separate categories, but, instead, to unify this and  
18 put it under one broader view and take a look at the  
19 entire problem.

20 Now I also want to bring one other thing  
21 up, and that is Mr. Singh did not deny that this was  
22 intentional. He scoffed at it and said, oh, you know,  
23 of course, who would ever ask that question, this sort  
24 of thing. But he didn't say that it was not  
25 intentional.

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1           And I request that the NRC turn this over  
2           to the Federal Bureau of Investigation to find out if  
3           this was intentional or not, if it's beyond the scope  
4           of your abilities to do so within your own source.

5           So, again, please broaden the scope,  
6           include these two categories, and I would definitely  
7           demand a full review of this dry cask storage system,  
8           including all of these various failures that are now  
9           happening, and everything that Mr. Singh has said,  
10          these many other changes, and make sure that you know  
11          what those are.

12                    Thank you.

13                   MR. LAYTON: Yes, thank you, Mr. Lutz, for  
14                   your comments. What I would offer is I'm going to ask  
15                   Michele Burgess again to give you the information to  
16                   bring your concerns forward under the petition  
17                   process, the 2.206 petition process.

18                   MS. BURGESS: Yes, this is Michele  
19                   Burgess.

20                   One general comment, though, is regarding  
21                   design changes. Our process does allow those to be  
22                   made in some cases under certain parameters, and  
23                   that's actually the issue that we are dealing with  
24                   right now in this enforcement action. So, it's not  
25                   going unaddressed as a general issue. That's exactly

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1 what we're here for in this particular enforcement  
2 action.

3 Relative to your comments about requesting  
4 a full review and action, that is, again, our 2.206  
5 petition process.

6 And you also mentioned that you had some  
7 specific information. Again, I'd just mention that we  
8 do have a process called our allegation process, that  
9 if you have specific information and concerns that you  
10 need us or you're asking us to follow up on, that that  
11 process is available to you as well. It gets it into  
12 the processes that exist currently.

13 THE OPERATOR: Thank you very much.

14 Our next request now is from Rich Van  
15 Every.

16 Sir, your line is open.

17 MR. VAN EVERY: Thank you. Yes, I  
18 appreciate the opportunity to get to sharing. I'm a  
19 concerned citizen in Southern California right near  
20 San Onofre.

21 And my question is, given that you don't  
22 see the shims or the canisters that are being gouged  
23 upon loading as an immediate problem, at what time do  
24 you foresee having a thorough inspection of the inside  
25 of these canisters, given there's no practical way to

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1 go about that?

2 I personally request that you consider  
3 finding how the NRC can really stand for safety by  
4 mandating thick-walled casks that can be, or any  
5 supplement storage system that isn't a temporary  
6 solution to this long-term issue that we're going to  
7 have.

8 So, I'm really hoping that you can put  
9 more pressure on Holtec or other manufacturers to make  
10 sure that no compromise is being made for safety and  
11 stop it by these major corporations.

12 Thank you.

13 MR. LAYTON: Thank you for your comment.

14 Is there another question, Fran?

15 THE OPERATOR: Yes, we have a few.

16 Raymond Shadis, New England Coalition.

17 Sir, your line is open.

18 MR. SHADIS: Thank you.

19 In short, we concur with Holtec's warnings  
20 regarding the errors and defects at the  
21 manufacturing/design interface. The unanalyzed  
22 stresses introduced by metal forming, machining, and  
23 plating are, in our opinion, a bad actor in operating  
24 plant failures, not only in manufacturing, but in  
25 repair, modification, and remediation.

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1           However, that said, quality control or  
2           quality assurance has to remain primarily the  
3           unassignable responsibility of the licensee. Holtec,  
4           I thought rather glibly, passed off responsibility for  
5           defective pins or pin sockets or pin placement on the  
6           manufacturer or on their vendor. There is no way for  
7           NRC to trace defects back to their source. Somebody  
8           has to take responsibility at some weigh station in  
9           the whole process, and I think that needs to be the  
10          licensee.

11                        In that same vein, downstream of Holtec's  
12          administrative and materials failures was Entergy  
13          Vermont Yankee. If Entergy Vermont Yankee was using  
14          a modified canister, they should have filed an  
15          amendment to their ISFSI license. As it happened,  
16          they stopped loading canisters and inspected, decided  
17          that what was fixable was fixed, and much didn't need  
18          fixing. And they simply moved on to complete loading  
19          a full array of canisters.

20                        This should not have been allowed. NRC  
21          should look into it. Many small errors at the end of  
22          the day can equal a determinant one. So, these  
23          formalities such as reporting and regulator review  
24          must be meticulously observed. That's our comment on  
25          that.

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1           And one final one on the pins, the locator  
2 pins. The MPC, as it was termed many times in today's  
3 discussion, means Multipurpose Canister. It is a  
4 canister that is intended for transportation. You  
5 know, it's in the name. We didn't see any analysis of  
6 any potential isometric loading due to broken shim  
7 pins during a transportation accident. It is unfair  
8 to pass this on to the Department of Energy and to  
9 other affected persons at the time this fuel is  
10 transferred for transportation. I don't know how that  
11 works in NRC's game plan, but it really needs to be  
12 considered.

13           Thank you.

14           MR. LAYTON: Well, thank you for your  
15 comments.

16           Is there someone else on the line?

17           THE OPERATOR: Yes. Charles Langley,  
18 Public Watchdog, your line is open. Charles Langley,  
19 could you check your mute button, please?

20           (No response.)

21           I'll move on. Chris Gorman, your line is  
22 open, ma'am.

23           MS. GORMAN: Yes. I'm a concerned citizen  
24 living within the 50-mile radius of San Onofre. I've  
25 been following this for some time.

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1 My understanding is that the licensee is  
2 planning to resume transferring these containers into  
3 storage the middle of this month, and that's long  
4 before you finish your evaluation on this issue.

5 And also, I'm very concerned about this  
6 retainer guide ring. I think that is an accident  
7 waiting to happen, and that is both a design and a  
8 manufacturing problem which is being overlooked,  
9 because your comment a little while ago was that  
10 you're focusing, when it comes to that retainer guide  
11 ring, you're focusing, you're looking at that as a  
12 misalignment issue, which I believe you're relating  
13 that just simply to lack of proper training and  
14 operating procedures. But I really believe that that  
15 is a definite both design and manufacturing problem.  
16 It's an accident waiting to happen.

17 Right now, you have a container, a -- what  
18 would you -- I guess the MPC sitting there above  
19 ground waiting to be downloaded. I'm very concerned  
20 about what's going to happen when they go to download  
21 that, even if they do have better training, because of  
22 the design.

23 And also, the thing that I think is  
24 critically important, a lot of what Mr. Singh was  
25 saying about these pins and them not being necessary,

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1 and that the cooling will happen in a, you know,  
2 adequate way, that's all pretty much theoretical, as  
3 far as I'm concerned, because unless you actually go  
4 in there and look -- you need to go inside and  
5 actually inspect. And my understanding is that, once  
6 it's downloaded, they can't be inspected. That's a  
7 real concern.

8 I think there's a huge, big issue here.  
9 And if you just narrow it down to the fact that these  
10 are just, oh, these unnecessary pins that don't matter  
11 anyway, it's not a safety issue, and if you, then,  
12 say, okay, well, we're just going to say this is okay  
13 and move on and continue with the downloading, you're  
14 really overlooking all the much bigger, major  
15 problems.

16 And I would like you to address these and  
17 specifically answer me back about this retainer guide  
18 ring and the fact that the, you know, the design and  
19 manufacturing is substandard and about inspecting  
20 inside.

21 MR. LAYTON: Yes, thank you, Ms. Gorman.

22 What I would offer is that the issues that  
23 you're bringing forward really have more relevance to  
24 the enforcement action that is going to be proceeding  
25 very shortly for the misalignment event at San Onofre.

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1 I think we have time for one more  
2 question.

3 THE OPERATOR: Marvin Lewis of the public,  
4 your line is open, sir.

5 MR. LEWIS: Thank you very much. I  
6 appreciate that you're keeping it open for one more  
7 question from the public. This is supposed to go on  
8 until five o'clock. It's only 4:15 on my clock. I  
9 sure would like to hear other questions from the  
10 public.

11 My question is a simple one. First of  
12 all, this Dr. Singh spoke for quite a while, over an  
13 hour from my watch, about various subjects. And one  
14 of the subjects he brought up was very, very  
15 interesting to me because I've been bringing it up a  
16 lot, too; namely, the manufacturing stresses that  
17 occur are not watched and not reported on.

18 I don't know if you have any idea what  
19 manufacturing stresses are, but let me give you an  
20 example. Many people leave their car out at night,  
21 come back in the morning, and the window is broken.  
22 And sure enough, nobody has threw rock; nobody touched  
23 that window. The manufacturing stresses were enough  
24 to break a window on a car.

25 And I say that the manufacturing stresses

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1 can do a heck of a lot. And since Dr. Singh brought  
2 it up and pointed out how deficient the requirements  
3 are on the guidances, namely, the books that the NRC  
4 puts out to help manufacturers and licensees meet  
5 these safety requirements. They're called "guidances"  
6 or "guides". And Dr. Singh pointed out himself that  
7 there was not even one mention of manufacturing or  
8 manufacturing defects in the whole schmear.

9 I think that's a pretty important thing to  
10 look at, and I hope you will before we have an  
11 accident, and it shows that something we didn't even  
12 worry about, namely, hanging maintenance tags, can  
13 destroy an entire nuclear power plant. Well, residual  
14 stresses can destroy a lot more than a simple  
15 canister, and we're not looking at that. And I really  
16 feel it's deficient. And so has Dr. Singh pointed out  
17 it's deficient that you're not looking at the  
18 manufacturing problems, the manufacturing stresses.  
19 And I hope you will do so.

20 I'm not saying that's the only error, but  
21 since that's an error that was pointed out by Dr.  
22 Singh himself, I hope that you get after it and do  
23 something about it.

24 Thank you.

25 MR. LAYTON: Thank you.

1                   And we have exceeded our 30-minute  
2                   timeframe for public comments. So, I would offer that  
3                   we are adjourning today.

4                   Thank you.

5                   (Whereupon, at 4:21 p.m., the proceedings  
6                   in the above-entitled matter were adjourned.)

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