

COMMUNICATIONS PLAN

Davis-Besse Nuclear Power Plant

This is an addendum to the Reactor Vessel Head Replacement Communication Plan

Shield Building Issue

October – November 2011

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GOALS

- Be prepared to answer public question on the cause, extent of condition and actions going forward related to the cracks identified in the concrete of the shield building.
- Be prepared to answer internal questions on the cause, extent of condition and actions going forward related to the cracks identified in the concrete of the shield building.

KEY MESSAGES

- On October 10, 2011, during hydro-demolition operations, indications of potential cracks were identified in various sections of the opening in the reinforced shield building concrete
- The discovery of these indications in the concrete of the shield building does not represent an immediate safety concern because the plant is currently shut down.
- It is important to emphasize that the shield building at Davis-Besse is not the primary containment vessel. The containment vessel is made of one and a half inch thick welded steel and sits inside the shield building separated by about four and a half feet of void space. The shield building's primary safety function is to protect the containment vessel against external hazards. The containment vessel is designed to keep the radiation inside the reactor from reaching the environment.
- The licensee is continuing to take several actions to characterize these indications and determine what further actions need to be taken to address this issue.
- NRC inspectors are closely assessing the activities related to the disposition of the crack indications through direct inspection along with reviews of records and calculations to make sure the issue is properly characterized and dispositioned.

- If there are any challenges with the safety function of the shield building, the NRC will ensure that the licensee will address them prior to restarting.
- The NRC is performing an independent review of the licensee's evaluation and will be communicating the results of this review, to the public, prior to the plant restarting.
- NRC will periodically update this communication plan as it finalizes its position on this issue.

BACKGROUND

The NRC was informed by FirstEnergy on October 10 that it had identified what looked like a crack in the concrete shield building of the Davis-Besse nuclear power plant in Oak Harbor, Ohio. The plant had been shut down and workers were starting to cut a hole in the side of the building in order to move and replace the reactor head when they found the crack. The shield building is made of two and a half feet of steel reinforced concrete.

It is important to emphasize that the shield building at Davis-Besse is not the primary containment vessel. The containment vessel is made of one and a half-inch thick welded steel and sits inside of the shield building separated by about four and a half feet of void space. The shield building's primary function is to protect the containment vessel against external hazards. The containment vessel is designed to keep the radiation inside the reactor from reaching the environment.

There is no threat to public health and safety because the plant is currently shut down. Furthermore, this issue did not meet the NRC's reporting requirements because it did not constitute an immediate safety concern.

Nevertheless, the NRC immediately sent a structural expert to the plant. In addition, there were already two resident inspectors and several specialists from the Region III office in Lisle, Ill., on the site inspecting the reactor head replacement activities. They are now also conducting an independent assessment of this new issue and are reviewing the utility's efforts to address the issue and any potential safety significance. If there are any challenges identified with the design function of the shield building the NRC will ensure that the utility to resolve them before restarting.

The activities the licensee has performed to date to address this issue include impulse response testing on various areas of the shield building's outer surface and several core bore samples. Our structural experts in the regional office as well as headquarters are currently performing a detailed review of the licensee's evaluation and extent of condition to independently verify whether the shield building is able to perform its safety function. The NRC will ensure all issues

are addressed to its satisfaction prior to the licensee's restart of the unit. The results of NRC's review will be communicated to the public (e.g. press release).

The safety functions of the shield building are, during operation, to provide additional shielding from radiation originating in the reactor and provide environmental and tornado missile protection for the containment vessel. In case of an accident, the shield building is a part of the ventilation system that filtrates radioactivity before it is released to the environment..

CHALLENGES

Currently identified challenges include:

- Effectively communicating the difference between the structural region and the architectural region.
- Effectively communicating the difference between the conclusions that have been drawn based on analysis and what is still preliminary information.

Q&As FOR DAVIS-BESSE SHIELD BUILDING ISSUES

Does NRC have regulatory requirements on the condition of the shield building from the safety perspective?

Yes, the Shield Building is a safety related structure. The licensee is required to maintain the quality of this structure in a condition that ensures it will be able to fulfill its safety function. The shield building was designed to withstand the impact of earthquakes, tornadoes and external objects.

How about the security implications of having the building that is supposed to protect the plant from an airplane crash develop a crack or even multiple cracks?

We cannot publicly discuss security related information. However we can say that since 9/11, the NRC has implemented a number of actions that ensure nuclear power plants are able to cope with a catastrophic event.

Does having a hole cut in the shield structure compromise its security function of protecting the plant from missiles?

We cannot publicly discuss security related information. The site performed a safety evaluation of this temporary condition, which the NRC reviewed to ensure it would not compromise the safety of the plant.

How come there is no event report on this issue? Is it reportable to the NRC?

The issue didn't have to be reported because it did not represent an immediate safety concern because the plant was shut down. The licensee is still evaluating the safety significance of the issue.

How come neither FE nor the NRC was aware of an 8-foot long crack?

The indications noted in the concrete of the shield building are still being evaluated by the site. The cracks identified in the shield building are contained within the structure and are not visible from the outside. The licensee is currently taking actions to address the extent of the cracking and performing analyses. The NRC will evaluate the licensee's analyses. As part of the evaluation the NRC will address the safety significance of the issue and based on the results, verify if any actions could have been taken to preclude this condition.

How come the NRC hasn't communicated to the public on this issue?

The NRC released a Preliminary Notification that provided a summary of the current condition of the shield building at that point in time. The NRC is currently involved in activities addressing the licensee's actions and evaluations concerning the cracks identified in the shield building. To date, the NRC has not reached any conclusions or made any decisions regarding the licensee's actions and evaluation results. When the NRC has a definitive conclusion, it will be communicated to the public. In the interim, the NRC has been answering questions from the media, public and congress, and providing assurance that all issues will be addressed to NRC's satisfaction prior to restart.

Does having the crack undiscovered constitute a violation?

NRC inspectors are currently on-site performing an independent inspection of the conditions identified in the concrete of the shield building as well as evaluating the licensee's analysis and actions taken to disposition these indications. If any discrepancies are identified between the licensee's actions and the NRC's requirements, NRC will take the appropriate measures to address them.

Is the NRC concerned about this issue from the safety point of view and from the security point of view? If not, why not?

The NRC is conducting inspections and independently assessing the cracks and the licensee's actions to ensure the issue is adequately evaluated and adequate corrective actions are taken, if necessary. There is no immediate safety concern because the plant is currently shutdown.

How vulnerable does the crack make the containment and the reactor?

Right now the containment and the reactor are in a safe condition. An initial evaluation was completed by the licensee that addresses the cracks identified in the shield building. The NRC is currently evaluating the licensee's ongoing analysis and will ensure any concerns are addressed prior to the licensee restarting the plant.

Was the reactor safe when it was operating with a crack in the shield building?

The NRC is currently reviewing the licensee's analysis and evaluating the safety significance of the issue.

And if the answer is yes, how can you say that? What if there was a terrorist attack by flying a plane into the reactor?

We cannot publicly discuss security related information. However, we can say that since 9/11, the NRC has implemented a number of actions that help ensure nuclear power plants are able to cope with a catastrophic event.

Are the public and the environment safe with the hole in the containment vessel and the shield building plus a crack in the shield building?

Yes. The temporary condition has been evaluated by the licensee and the NRC. Prior to cutting a doorway in the containment vessel the fuel was removed from the reactor vessel. The cut in the shield building was evaluated prior to creating the temporary maintenance access.

What can you tell us about the crack?

Cracks have been identified in various sections of the concrete of the shield building. The licensee is currently completing its evaluation of these crack indications and determining their extent as well as performing an evaluation of the current condition of the shield building to ensure it will be able to meet its safety functions. NRC is reviewing the licensee's evaluation of this issue and will confirm that all issues are addressed prior to restart.

When was the NRC informed about the crack?

After the condition was discovered on Monday, October 10th, the licensee immediately notified the NRC resident inspectors.

Was it visible from the outside? If so, how come it wasn't discovered?

No, the indications identified to date are internal to the structure and cannot be viewed from the outside.

The discovery of the crack in the containment means that this plant is a danger to the public. Is the NRC really going to even consider renewing the plant's license after all the "surprise" problems it has had?

The potential concrete cracking is in the shield building which is not equivalent to the containment vessel. The licensee is currently completing the evaluation of the crack indications in the shield building. Once the evaluation is complete, the NRC will review it and take any actions necessary to ensure the licensee is taking the actions necessary to ensure the shield building will perform its design function and the safety of the plant is maintained.

What actions are the NRC taking?

There are currently NRC structural inspectors on-site monitoring this issue. They will be monitoring the conditions through completion. They are also consulting with other experts in our regional and headquarters offices. Also, the NRC will review the licensee's analysis of the cracks and their assessment of whether they interfere with the building's ability to fulfill its design function.

What is the NRC doing about this problem?

Immediately after being notified of the crack indications, the NRC dispatched additional inspectors to monitor FENOC's assessment and analysis of these indications. Once we have a complete evaluation from the utility on the scope and potential impact of the cracks on the shield building's ability to fulfill its safety functions, the NRC will conduct independent evaluations to determine whether we agree with that assessment. NRC will take all appropriate and necessary actions following the completion of our review to ensure public health and safety.

Are there extra inspections? Does NRC have inspectors; inspections specifically to look into this?

Yes, the NRC has structural experts, onsite. Currently, the NRC inspectors are reviewing the concern as part of the inspection activities associated with the oversight of the modifications in the plant for the replacement of the reactor vessel head. Headquarters experts are also involved in the evaluation of the licensee's analysis.

Is there going to be a special inspection into this problem?

The site is still in the process of evaluating the condition. Though no need for a special inspection has been identified, the NRC has already added additional inspectors onsite and additional Headquarters support is being provided. NRC managers and staff are continually evaluating the information we gather through our inspection efforts, and if safety concerns come to light in the course of the review, NRC will take all appropriate and necessary actions to ensure public health and safety.

Is the NRC going to make the plant delay its restart and inspect the rest of the shield building for cracks?

The licensee evaluation of all the indications identified in the shield building has not been completed. If during our review we identify any concerns, the licensee will have to address them before restart.

Do they have to fix this before restarting?

The licensee will need to disposition the concern prior to restart. The NRC is assessing the licensee's actions and will not hesitate to prevent the plant from restarting if a safety concern exists.

What does it say about their safety culture?

The licensee identified the concern, put it in their corrective action program and is evaluating it in accordance with their corrective action program.

Did they conceal this from the NRC and the public?

No, based on the method of discovery, it is our understanding that they communicated the conditions they identified immediately after discovery.

How is this different from Crystal River?

Comparisons have been made between the cracks found in the shield building at Davis-Besse and cracks in the containment structure at the Crystal River nuclear plant in Florida. However, there are significant differences between the two plants. Crystal River's containment vessel is attached to the shield building serving as a single structure to prevent radiation from reaching the environment whereas at Davis-Besse the free-standing steel containment vessel, that is separate from the shield building, serves that function. Because of this difference, the cracks identified in the containment structure at Crystal River in 2009 challenge its safety and that is why the plant is currently shut down.

Crystal River has been shut down for a long time because of a similar problem. How come the NRC isn't requiring DB to shut down?

Davis Besse is currently in a shutdown condition. The problem at Crystal River is different to the conditions identified at Davis Besse (see above). Also, the conditions at Davis Besse have not been fully evaluated yet and therefore, no determination has been made with respect to the actions going forward.

What is the difference between the architectural region and the structural region?

Both what is being described as the architectural region and the structural region are part of the shield building structure. The architectural portions of the shield building, otherwise known as "shoulders", have a cosmetic function. They are not needed for the building to fulfill its safety

function of protecting the containment vessel against earthquakes, tornadoes and outside objects.

Why is it ok for there to be cracks in the architectural region?

The site is currently evaluating the cracks identified in the shield. Before the NRC can make an independent determination on the impact these cracks have on the function of the shield building, they will be reviewing the licensee's evaluation and addressing any questions or concerns that may arise. The NRC will ensure all our concerns are addressed prior to the plant restarting.