17876 I-NIRS-1

NUCLEAR REGULATORY COMMISSION
Docket No. 50-219-LA EXHIBIT NO. 1
In the matter of General Public Utility Corp
☐ Staff ☐ Applicant ☒ Intervenor ☐ Other Petitioner
☒ Identified ☐ Received ☐ Rejected Reporter SM
Date 8/7/96 Witness

Nuclear Information and Resource Service

1424 16th St. NW, Suite 404, Washington, DC 20036; 202-328-0002; fax:202-462-2183; e-mail:nirsnet@igc.apc.org web:www.nirs.org

Comments Before ASLB Pre-Hearing Conference Oyster Creek
On Behalf of Petitioners NIRS, OCNW, and CAN
August 7, 1996

INTRODUCTION

On behalf of the Petitioners, Nuclear Information and Resource Service (NIRS), Oyster Creek Nuclear Watch (OCNW), and Citizens Awareness Network (CAN), I wish to thank you for the opportunity to present our concerns and issues with GPUNs proposed modification of its Technical Specification 5.3.1.B of its Updated Final Safety Analysis Report governing activity involving movement of heavy loads over irradiated fuel.

The Petitioners are here before the Atomic Safety and Licensing Board to protect and preserve the current technical specification governing heavy load movement activity at Oyster Creek nuclear generating station in Toms River, NJ.

I. Petitioners Response to GPUNs and NRC Claims That The Petition Should Be Denied

A. GPUN's claims that the petitioners contention is vague and is not supported by a factual basis or expert opinion. GPUN claims that the petitioners do not indicate how the licensee violates NRC guidance on defense-in-depth and consequently fails the specificity requirement. in 10 CFR 2.714(b)(2)(iii)

RESPONSE:

GPUN Technical Specification Change Request No. 244 dated April 15, 1996 in the paragraph revised and added at the bottom of Technical Specification page 5.3.1.B ends with the statement that "...dropping the shield plug onto a loaded dry shielded canister in the spent fuel pool is not a credible event." The Petitioners assert that despite training, operator error and/or technical failure could result in an accidental drop of the shield plug onto irradiated fuel, even though it be irradiated fuel in a dry shielded cask. Such a drop accident the Petitioners assert is unanalyzed by the licensee.

1. The current technical specification 5.3.1.B requires that "Loads greater than weight of one fuel assembly shall not be moved over stored irradiated fuel in the spent fuel storage facility". The Petitioners contend that Oyster Creek's current Technical Specification 5.3.1 is very specific. The Petitioners note that it does not include the language stating that GPUN should avoid movement of heavy loads greater than a single fuel assembly over irradiated fuel "to the extent practical." The petitioners contend that the specificity of the current technical specification is not

the result of an oversight by the licensee in preparing the Final Safety Analysis Report. Petitioners assert that the specificity of the current technical specification is intentional: to remove the potential for human error, mechanical and/or electrical failure from resulting in an accident that damages or encroaches upon irradiated fuel as directed by NUREG- 0612.

GPUN in its proposed technical specification revision intends to increase the heaviest load currently allowed to be carried over irradiated fuel assemblies by approximately 28 times, recognizing that the subject irradiated fuel is in the NUHOMS dry shielded cask . The relavant point to the Petitioners in these proceedings is to determine what happens if a seven ton load is dropped onto a cask containing up to 52 irradiated fuel assemblies?

2. The petitioners reassert their concerns with this regard to the issue of human error. Petitioners wish to enter into the record an additional document as it pertains to the issue of human error authored by Victor Stello, then Executive Director of Operations, in Memorandum to Secretary Samuel Chilk. The document responds to a request by Commissioners Asselstine and Bernthal dated April 30, 1986 regarding "Impact of Budget Cuts on NRC's Ability to Assure Safety." Mr. Stello's conclusion states that there exists "no objective methods for assessing the effectiveness of current or proposed regulations applicable to human reliability or for measuring the performance of plant operating and maintenance personnel"

The petitioners assert that Mr. Stello's document provides a factual basis on the unpredictable nature of human error. Because of the unpredictable nature of human error and the consequences of an accident involving irradiated fuel, it is necessary to establish procedures which restrict human activity and govern weight limits over irradiated fuel.

3. Petitioners assert that the Oyster Creek Plant Performance Review issued July 19, 1996 by NRC reads "We have noted that avoidable personnel errors continued to occur during routine activities, although the rate of occurrence appears to have decreased slightly. These errors are most prevalent in the areas of operations and maintenance." The review continues "We are aware of your ongoing efforts to reduce the rate of personnel errors through self assessments. Due to the continued errors, it appears that your actions to date have not yet been fully effective."

4. Human error has entered into fuel handling incidents in the recent past at Oyster Creek. Petitioners point out GPUN Licensee Event Report 95-002-0 "Unsupervised Core Alteration Due to Personnel Errors in Decision Making" dated June 13, 1995. GPUN was in violation of Technical Specification Section 6.2.2.2.e which requires that all core alterations shall be directly supervised by either a licensed senior reactor operator or senior reactor operator limited to fuel handling who has no other concurrent responsibilities during this operation. Contrary to Technical Specifications, on November 6, 1994 a core alteration was performed without direct supervision by either a licensed senior reactor operator or licensed senior reactor operator limited to fuel handling. GPUN concurred with the violation.

The Petitioners assert that the issue of human error provides support for the contention that it is in deed not practical to modify and reduce current a technical specifications designed to

preclude human error and/or mechanical failure from dropping a heavy load onto irradiated fuel without undermining the Defense-In-Depth Philosophy as established in NUREG-0612.

B. Both NRC and GPUN assert that the Petitioners Contention fails to point to a genuine dispute between Petitioners and the Licensee.

RESPONSE:

While GPUN has claimed that "dropping of the shield plug onto a loaded dry shielded canister in the spent fuel pool is not a credible event" the Petitioners find no evidence of docketed material on which GPUN bases this conclusion. The Petitioners are in basic disagreement with the licensee statement that "training and inspections contribute to the determination that dropping the shield plug onto a loaded dry shielded canister in the spent fuel pool is not a credible event."

C. Petitioners fail to identify any deficiency in the safe load travel paths or procedures GPUN is employing.

RESPONSE:

1. The Petitioners reassert their concerns with regard to the drop of the shield plug onto the loaded DSC containing up to 52 fuel assemblies. Fuel cladding degradation and fuel assembly damage has been evidenced at Oyster Creek by the petitioners and specifically cited in the petition. The Petitioners reassert that a shield plug drop onto a loaded DSC potentially with degraded fuel constitutes an unanalyzed condition potentially involving recriticality thus affecting the safe load travel path.

D. Petitioners assertion that degraded fuel will be placed in the DSC is nothing more than incorrect speculation.

RESPONSE:

1. The petitioners have seen no publicly docketed details from the utility to determine how they will keep deteriorated fuel from being placed in the dry shielded casks. Additionally, the issue of docketed events involving fuel cladding failures and fuel assembly deterioration in context of the loading of the DSC has not been publicly addressed by GPUN in its current filing. The petitioners are left in the dark as whether or not and how the utility plans to screen each fuel assembly before it is placed into the DSC? The petitioners are unaware if these inspections are simply visual examinations? Do examinations occur in a hot cell to measure leakage and determine the extent of deterioration of the assemblies.

2. Perhaps the utility can direct the Petitioners to where documentation has been submitted to address this apparent deficiency. The Petitioners would use these proceeding to seek that GPUN provide documentation and assurance that weakened irradiated fuel assemblies will not be placed into the DSC. The Petitioners further request that GPUN provide documentation to assure public concerns that if weakened fuel assemblies do get placed in DSCs what are the consequences on criticality and shielding if they break apart and relocate within the cask as a result of a heavy load drop involving the shield plug and hoist mechanism?

In the absence of answers to these questions and valid assurances from the licensee, it is the contention of the Petitioners that GPUN has undermined the Defense-In-Depth Philosophy as stipulated in NUREG-0612.

E. NRC has argued that Petitioners do not provide support for the admission of their contention.

RESPONSE:

1. The NRC sets out to establish that NUREG-0612 concerns heavy loads but asserts that the Petitioners have a "disconnect" in their application of the NUREG to Technical Specification 5.3.1.B which NRC sets out to describe "does not address heavy loads."

The Petitioners reassert that GPUN proposes to increase the current allowable weight movement over irradiated fuel by 28 times or seven tons. The Petitioners interpret this magnitude of increase as a reclassification of current load limitations over irradiated fuel from the weight of a single fuel assembly to a classification of heavy load easily capable of crushing or disrupting the structural integrity of irradiated fuel.

The Petitioners reassert that TS 5.3.1.B was not authored out of a vacuum. NUREG-0612 clearly states in the first two sentences of the Abstract "In nuclear power plants heavy loads may be handled in several plant areas. If these loads were to drop in certain locations in the plant, they may impact spent fuel, fuel in the core, or equipment that may be required to achieve safe shutdown and continue decay heat removal." NUREG-0612 clearly sets out to establishment requirements governing the movement of heavy loads over stored irradiated fuel, the fuel core, and safe shutdown equipment.

2. The NRC further claims that documented fuel cladding failure and a disintegrating fuel assembly accident at Oyster Creek provide no basis for the Petitioners contention. The Petitioners reassert their concern that degraded fuel being loaded into the DSC constitutes an unanalyzed condition concerning criticality of irradiated fuel in the load path in the event of a shield plug drop.

The Petitioners are aware that the NUHOMS Certificate of Compliance specifies a determination by the licensee that the Zircaloy-clad fuel be free of known or suspected gross cladding breaches before loading into the DSC. Neither the NRC nor GPUN offer any documentation or explanation as to how the licensee will screen irradiated fuel assemblies for defects to verify the structural integrity of the Zircaloy fuel cladding and susceptible materials which fabricate fuel assemblies components, such as Inconell 600.

F. Petitioners assertion that shield plug could be dropped on the spent fuel liner is unsupported.

RESPONSE:

The Petitioners are willing to concede that the use of the combined use of the Cask Drop Protection System, multiple cables and mechanical stops on rails appears to make a shield plug drop onto the irradiated fuel pool liner resulting in a draindown of the fuel pool an unlikely event.

G. Petitioners further assert that the GPUN revision of Technical Specification 5.3.1.B raises additional questions and concerns with regard to the Defense-In-Depth philosophy at Oyster Creek.

1. Specifically, GPUNs safety evaluation is weak. Technical Specification Change Request No. 244 in Section III entitled "Safety Evaluation Justifying Change" states at the top of the page that "Phase loss /phase reversal protection has been installed. Phase loss results in substantial loss of drive motor torque and possible load drop." It does not indicate that the shield plug won't be dropped if power is lost during the lifting evolution. The safety evaluation does state that "Phase loss results in substantial loss of drive motor torque and load drop." The Petitioners seek to determine if a loss of power could cause a "substantial loss of drive motor torque."? The Petitioners raise the lack of a GPUN internal review of the issue and inclusion in the safety evaluation as an additional concern.

2. The GPUN safety evaluation is also weak in that it does not address consequences of a seismic event during the lifting evolution. If the crane and lifting equipment are seismically qualified it should be stated as such and maintained as seismic in the future? Because seismic events are credible, the Petitioners are concerned that the shield plug would be dropped in such an event. The Petitioners raise the lack of a GPUN internal review and inclusion in the safety evaluation as an additional concern.