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**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION**

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

**ATOMIC SAFETY AND LICENSING BOARD PANEL**

**In the Matter of**

**Docket No. 50-423-OLA**

**Dominion Nuclear Connecticut, Inc.  
(Millstone Nuclear Power Station,  
Unit 3)**

**ASLBP No. 862-01-OLA-BD01**

**AUGUST 7, 2008**

**CONNECTICUT COALITION AGAINST MILLSTONE AND NANCY BURTON  
REVISED MOTION FOR LEAVE TO FILE THEIR NEW AND/OR AMENDED  
CONTENTIONS BASED ON RECEIPT OF NEW INFORMATION  
AND FOR CONTINUING WAIVER OF ELECTRONIC FILING**

The petitioners, Connecticut Coalition Against Millstone and Nancy Burton (collectively, "petitioners" or "CCAM"),<sup>1</sup> herewith move for leave to file new and/or amended contentions based on receipt of new information within thirty (30) days of the posting on July 28, 2008 on the NRC website of the official transcript of the July 8, 2008 subcommittee meeting of the Advisory Committee on Reactor Safeguards pertaining to this application and for a continuing waiver of electronic filing requirements during these proceedings or until the petitioners are able to achieve the technical computer capability compatible with the NRC E-filing system.

In accordance with the provisions of 10 C.F.R. § 2.323(b), the undersigned, petitioner Nancy Burton, certifies that the petitioners have made a sincere effort to contact counsel for the applicant, Dominion Nuclear Connecticut, Inc. ("Dominion"),

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<sup>1</sup> By Notice and Order dated June 4, 2008, the Atomic Safety and Licensing Board Panel assigned to this matter dismissed the petition to intervene and request for hearing. ADAMS ML 081560680. The petitioners filed a Notice of Appeal to the U.S. Nuclear Regulatory Commission on June 16, 2008, which appeal is pending. ADAMS ML 081750222.

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and the NRC staff to resolve the issues in this motion. Counsel for Dominion responded and indicated Dominion objects to this motion. To date, the NRC staff has not responded to the petitioners' communication most recent. Accordingly, the petitioners' efforts to resolve the issues have been unsuccessful.

The petitioners seek leave to file new and/or amended contentions because they have recently become aware of additional and/or new information bearing on specific aspects of the application previously unknown to them or unavailable to them and such information is materially different from information previously available. Therefore, this request satisfies the criteria of 10 C.F.R. § 2.309(f)(2) and should be granted.

The prospective contentions relate to:

- (1) temperature spikes in the hot legs of the reactor;
- (2) increase of fluence on the wall of the vessel;
- (3) use of AST assumptions AND Reg. Guide 1.82 assumptions relating to dose-after-an-accident;
- (4) steam generator tube repair;
- (5) gas accumulation/decay heat removal/containment spray systems; and
- (6) sudden surge in pre-seasonal arrival of jellyfish at Waterford, Connecticut, shoreline, as a probable function of global warming, an issue unevaluated in the applicant's analysis of thermal impacts attributable to the estimated 7+ per cent increase in BTUs to the Long Island Sound.

Additional new contentions may be proffered upon review by the petitioners and their expert, nuclear safety engineer Arnold Gundersen, of the official transcript of the NRC's Advisory Committee on Reactor Safeguards subcommittee proceedings on July 8, 2008.

The petitioners previously, on July 18, 2008, filed a motion for leave to file new and/or amended contentions, seeking a 10-day period from receipt of the official

transcript during which to file such contentions.

However, a greater period of time is required because of the complex nature of the technical review required and pre-existing professional commitments on the part of petitioners' nuclear safety expert; additional time is needed as well to engage a marinelife expert on the issue of the projected heightened temperature of the thermal plume.

With regard to prospective new/amended contentions (1), (2) and (3), new information, which is materially different from information previously available to the petitioners in this matter, was revealed by Dominion during its interactions with the ACRS on July 8 and July 9, 2008. These prospective contentions are discussed further below under "New and/or Amended Contentions."

With regard to prospective new/amended contentions (4), new information, which is materially different from information previously available to the petitioners when they filed their petition to intervene and request for hearing, has recently surfaced on the NRC's website.<sup>2</sup> This prospective contention is discussed further below under "New and/or Amended Contentions."

With regard to prospective new/amended contentions (5), new information, which is materially different from information previously available to the petitioners when they filed their petition to intervene and request for hearing, has recently surfaced on the

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<sup>2</sup> See, e.g., Dominion's proposed license amendment request for interim alternate repair criteria (IARC) for steam generator (SG) repair for Millstone Unit 3, ADAMS ML 081490087, which is believed pending.

NRC's website.<sup>3</sup> This prospective contention is discussed further below under "New and/or Amended Contentions."

With regard to prospective new/amended contention (6), the petitioners became aware for the first time on July 14, 2008, when it was reported in The New London Day newspaper<sup>4</sup> that a surge in pre-seasonal arrival of masses of jellyfish on the shoreline of Long Island Sound surrounding the Millstone Nuclear Power Station ("Millstone") is presently occurring, a possible result of global warming and heating up of the Long Island Sound. Dominion's application proposed to increase the release of BTUs to the Long Island Sound by at least 7 per cent, a significant increase.<sup>5</sup> Dominion's application does not address the implications for jellyfish and other marinelife under power uprate conditions in light of complex global warming stresses now known to be underway. This prospective contention is discussed further below under "New/Revised Contentions."

### **New And/Or Amended Contentions**

**(1) Temperature spikes in the hot legs of the Millstone 3 reactor - and the use of a new 4-second filter - present new and unreviewed safety issues not addressed by the application.**

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<sup>3</sup> See, e.g., NRC correspondence to Dominion regarding "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal and Containment Spray Systems," including for Millstone Unit 3, dated July 8, 2008, ADAMS ML 081680474.,,

<sup>4</sup> A copy of the article entitled "Invasion of the Jellyfish" appears attached hereto.

<sup>5</sup> See Dominion Application, Attachment 2, Supplemental Environmental Report, Section 7.2.2, "MPS3 Cooling Water Systems," ADAMS ML 072000391.

On July 8, 2008 at the NRC ACRS subcommittee meeting at NRC headquarters in Rockville, Maryland, regarding Dominion's application to uprate power at Millstone Unit 3, Dominion notified ACRS that it had been experiencing periodic, random temperature fluctuations in the hot legs of the reactor at Millstone Power Unit 3 (MP3). Following upon the Applicant's statement, Westinghouse representatives stated that it was aware of other four-loop Westinghouse units that had also experienced similar hot leg random temperature fluctuation, herein referred to as hot leg phenomena.

During the morning session, the Dominion's representatives stated that the temperature oscillations occurring in the hot leg phenomena were approximately several seconds long and several degrees above the normal hot leg temperature. Both the petitioners and NRC ACRS were previously unaware of this hot leg phenomena until informed of it by Dominion and Westinghouse at the July 8, 2008 ACRS subcommittee hearing.

The introduction of this new evidence presented to ACRS regarding Dominion's application to uprate power at Millstone Unit 3 led to extensive discussions during the meeting, thereby eliciting further "new" - i.e., previously undisclosed or withheld - information from Dominion of which the petitioners were theretofore unaware.

Specifically, ACRS questioned Dominion as to whether or not any temperature decreases were also present to offset any temperature increases. During the morning session, Dominion's representatives did not know the answer to this question. Later in the day, Dominion had determined that there were simultaneous offsetting drops in the opposite hot leg ( 1 and 4, 2 and 3). In the morning, Dominion's representatives states

that these temperature "spikes" lasted only several seconds in duration, but by the afternoon, the Dominion representatives stated that the "spikes" had been measured to last as long as 15 seconds.

ACRS also questioned the applicant regarding the possible cause of the spikes, and the applicant acknowledged that the cause was uncertain; however, the Applicant also believed that the hot leg phenomena is most likely caused by uneven mixing of water coming out of the top of various bundles in the core. Westinghouse also suggested that this uneven mixing of water might be the likely reason for the phenomenon of a hot leg spike. The petitioners remain concerned that the applicant had no meaningful understanding as to whether the temperature "spike" magnitude, duration or frequency might increase as a result of the applicant's proposed Millstone Unit 3 power increase.

More disturbing is that the fact that in the past, these periodic temperature swings have caused spurious reactor trips. Dominion's representatives called this phenomenon "Upper Plenum Anomaly". In order to mitigate the effects of these temperature "spikes," Dominion has proposed adding an electronic filter to effectively create a four-second running average for these temperature "spikes" in an effort to smooth them out over time. The applicant claims that by using such a filter, the margins in the "upper plenum anomaly" will be improved if the power uprate is approved. The Applicant claims that the four-second electronic filter it plans to install at Millstone Unit 3 during the upcoming refueling outage in October 2008 would address these temperature swings and "re-establish DNBR margin" (Departure from Nucleate Boiling Regime). The applicant also

alleges that by installing this filter it most likely improve the DNBR Margin Safety Analysis Limit from 1.39 to 1.60.

The petitioners believe that introduction of this new information - materially at odds with the application - so late in the licensing process introduces three new unresolved safety issues that must be analyzed by NRC prior to acceptance of applicant's license amendment to increase Millstone Unit 3's power generation. The significant issues which must be analyzed include the following:

1. **Cyclic Fatigue** – If the temperature in one hot leg increases while the opposite leg temperature decreases, this introduces cyclic fatigue issues, which have not been discussed or analyzed in any correspondence between the applicant and the NRC. Not only has the phenomenon of hot leg spikes not been analyzed for the proposed power uprate, but the entire issue of hot leg spikes has not been analyzed for Millstone 3's current operation. These cyclic fatigue issues must to be analyzed prior to any further proceedings in the uprate license process, and should also be analyzed in light of Millstone Unit 3's current operations.
2. **Conflicting Temperature Spike Data** – Moreover, during the ACRS meeting, the applicant acknowledged that these temperature "spikes" create operational problems, including periodic spurious reactor trips caused because the calculations used to determine DNBR are driven by the hot leg temperature.

2.1. The unveiling of 15-second "spikes" conflicts with the applicant's newly created 4-second spike filter design. *In fact, the Applicant appeared unaware the "spike" duration could exceed 4-seconds until the afternoon*

*session.*

2.2. During the afternoon session of the ACRS subcommittee hearing on July 8, 2008, the applicant informed the ACRS and the NRC staff that many times the duration of the "spikes" has lasted as long as 15 seconds. *Such new revelations by the applicant clearly contradict and undermine any claimed margin improvements assumed by the applicant in its use of a 4-second filter.*

2.3. Furthermore, the information submitted by Dominion during the morning session information did not support its assertion during the afternoon session that the duration of the "spikes" could be as long as 15-seconds. *In fact, given that Dominion now says that the "spikes" may last as long as 15 seconds, the 4-second delay seems arbitrary and may in fact cause a reduction in the safety margin rather than an improvement.*

3. The petitioners do not understand how adding a 4-second delay to a rise in hot leg temperature would improve the response to an actual accident. In the event of an accident having an incipient signal which is an actual rise in the hot leg temperature, Millstone's response to that accident would be delayed by 4 seconds as a result of the proposed modifications.

Prior to a public presentation of the hot leg phenomena by Dominion and Westinghouse at the ACRS subcommittee July 8, 2008, no member of the ACRS had any prior knowledge of these temperature "spikes" in any of the Westinghouse Pressurized Water Reactors. In addition, none of the material presented to the ACRS

regarding these hot leg phenomena has been previously analyzed or discussed during any portion of the Millstone Unit 3 docket. Therefore, it would be extremely unreasonable to expect that the petitioners might have been able to identify probable safety issues caused by these hot leg phenomena of oscillating temperature "spikes" in the original petition to intervene and request for hearing.

Until the July 8, 2008 ASLB hearing, the information provided by the applicant was vague and misleading regarding the issue of its hot leg random temperature fluctuation, herein referred to as hot leg phenomena. At the ASLB hearing for the first time during the entire license amendment application process - inaugurated by Dominion's filing of its application one year ago on July 13, 2007 - the petitioners learned that the hot leg temperature "spikes" were as long as 15 seconds. It is unclear how a 4-second filter can "smooth out" a fifteen second "spike."

Furthermore, for the first time, the petitioners learned that not only is there a temperature "spike" in one leg but there was also a temperature drop in the other leg. This means that while one leg is getting hotter, the opposite leg is getting colder, which, over the life of the reactor, induces thermal stresses which have not been analyzed by the applicant. These temperature cycles represent an un-reviewed safety issue that, until last week, was unknown to both the petitioners and the ACRS.

The Applicant claims that this change will increase reactor stability, but the petitioners vehemently disagree. Rather, the 4-second filter may in fact mask initiation of safety features from prompt and appropriate operation in the event of an actual incident. Furthermore, the applicant has yet to explain on the current docket how stability can be

enhanced by placing a 4-second filter on a 15-second “spike.” As one of the members of the ACRS stated, according to the petitioners’ hand-written notes “Nature is trying to tell you something, and you are masking the signal.”

The applicant produced slides allegedly indicating that safety margins would dramatically improve using the 4-second filter. The applicant did not explain how the safety margin would improve given that a 15-second “spike” would not be addressed by a 4-second filter.

Specific locations within the Docket where the 4-second filter is discussed but left unanswered include but are not limited to the following:

**Serial No. 07-0450 Docket No. 50-423 Attachment 1 Page 5.** 2.2.5 TS Table 2.2-1, Reactor Trip Instrumentation Trip Setpoints, Table Notations

**Serial No. 07-0450 Docket No. 50-423 Attachment 1 Page 17.** 5.5 Over Temperature Delta Temperature (OT.T) and Overpower Delta Temperature (OP.T) Setpoints

**Serial No. 07-0450 Docket No. 50-423 Attachment 1 Page 37.** 6.1.5.3 Involve a significant reduction in a margin of safety. And, 6.1.5.4 Conclusion

**Serial No. 07-0450 Docket No. 50-423 Attachment 1 Page 36.**

6.1.5 Over Temperature Delta Temperature (OT.T) and Overpower Delta Temperature (OP.T) Setpoints

6.1.5.1 Involve a significant increase in the probability or consequences of an accident previously evaluated.

**Attachment 1, Millstone Power Station Unit 3, License Amendment Request, Stretch Power Uprate, Descriptions, Technical Analysis and Regulatory Analysis for the Proposed Operating License and Technical Specifications Changes.**

**Serial No. 07-0450 Docket No. 50-423 Attachment 1 Page 5**  
**2.2.5 TS Table 2.2-1, Reactor Trip Instrumentation Trip Setpoints, Table Notations**

“As part of the OT.T optimization, a four second filter is being added to the Thot input, prior to the modules that calculate Tavg and  $\dot{T}$ , to smooth out temperature spikes observed in the Thot signals. The filter allows additional optimization of the OT.T/OP.T settings to improve the trip margins for the OT.T and OP.T reactor trips, and also add stability to the rod control system. As a result, the rate lag compensator card for Tavg input to the OP.T is being eliminated from the control system, and the second term (K5 term) in Note 3 equation for OP.T is deleted.”

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**Serial No. 07-0450 Docket No. 50-423 Attachment 1 Page 17**

**5.5 Over Temperature Delta Temperature (OT.T) and Overpower Delta Temperature (OP.T) Setpoints**

In Technical Specification Table 2.2-1 Reactor Trip System Instrumentation Trip Setpoints, the second term, the K5 term, in the Note 3 equation is being deleted. The rate lag compensator card for Tavg input to the OP.T is being eliminated from the control system.

In the past, MPS3 has experienced hot leg temperature spiking associated with the phenomena known as upper plenum anomaly. These spikes may lead to pre-trip alarms for the OT.T and OP.T setpoints. In the limiting condition, inadvertent trips may be experienced. To address the potential for these phenomena to be more frequent at uprated conditions, a DNBR study was performed to determine the optimum solution that would provide margin from spurious alarms and trips, while still maintaining the required margin for DNBR. As a result of the study, it was decided to implement a design change that will add an electronic filter to the hot leg temperature signal from the hot leg RTDs. The filter will reduce the number of spurious alarm trips due to potential hot leg temperature spiking. To offset the DNBR impact of the filter, the OT.T and OP.T setpoints were optimized. As a result of the optimization study, it was determined that the K5 term in the OP.T equation is no longer needed. As a result, the electronic card implementing the K5 term will be removed and replaced with the electronic card to implement the hot leg temperature filter.

As documented in LR Section 2.8.5 (Attachment 5), the DNBR analysis shows that the DNBR limits will be met for all FSAR Chapter 15 events as required, assuming the implementation of the hot leg temperature filter and the optimized OT.T and OP.T setpoints.

With the implementation of the hot leg temperature filter, the current margin to spurious alarms and trips due to temperature spikes from the upper plenum anomaly will be maintained. Thus, any increase in the likelihood of a spurious trip due to the upper plenum anomaly is expected to be minimal.

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**Serial No. 07-0450 Docket No. 50-423 Attachment 1 Page 37**

Thus, these changes will not create the possibility of a new or different kind of accident.

**6.1.5.3 Involve a significant reduction in a margin of safety.**

As shown in LR 2.8.5 the SPU conditions in combination with the installation of the hot leg RTD filter and the modified OT.T and OP.T setpoints have been incorporated in the revised accident analysis. The results of these analyses show that the appropriate DNBR and fuel melt limit criteria have been met. Thus, these changes do not result in a significant reduction in the margin of safety.

#### **6.1.5.4 Conclusion**

Therefore, there are no significant hazards associated with the change in the OT.T and OP.T setpoints.

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**Serial No. 07-0450 Docket No. 50-423 Attachment 1 Page 36**

### **6.1.5 Over Temperature Delta Temperature (OT.T) and Overpower Delta Temperature (OP.T) Setpoints**

#### **6.1.5.1 Involve a significant increase in the probability or consequences of an accident previously evaluated.**

The Over Temperature Delta Temperature (OT.T) and Overpower Delta Temperature (OP.T) reactor trip setpoints are credited in the analysis of a number of events (e.g., steam line break and rod withdrawal at power) to ensure that the DNBR criteria and the fuel temperature melt temperature limit are met. An additional consideration in determining the optimum OT.T and OP.T reactor trip setpoints is the potential for spurious alarms and trips due the temperature-spiking phenomenon known as Upper Plenum Anomaly. MPS3 has experienced pre-trip alarms due to this phenomenon. To minimize the potential for spurious alarms and trips, an electronic filter will be installed for the hot leg RTD temperature signal.

A scoping study was performed to determine the optimum OT.T and OP.T setpoints that will assure that the DNBR and fuel temperature melt limit are met while minimizing the likelihood for a spurious trip.

As shown in LR Section 2.8.5, the revised accident analyses demonstrate that all DNBR and fuel melt limits have been met. Thus, there is no significant increase in the consequences of an accident.

In the scoping study, the potential for increased temperature spikes were considered. With the installation of the hot leg RTD temperature filter and the revised OT.T and OP.T setpoints, it is expected that the margin for inadvertent pre-trip alarms and inadvertent trips will be comparable to current pre-uprate conditions. Thus, it is concluded that the installation of the hot leg temperature filter and OT.T and OP.T setpoints will assure that there is no significant increase in the probability of any evaluated accident.

**(2) The increase of fluence on the wall of the Millstone 3 vessel has not been adequately analyzed.**

The new reactor core neutron flux profile increases the fluence on the wall of the vessel. However, the applicant actually lowered the predicted fluence to the vessel wall based on the samples taken from the reactor.

New information materially at odds with the application, subject to verification when the ACRS official transcript is released, forms the basis of this new contention.

**(3) After-accident dose calculations are based on inconsistent standards.**

Further during the ACRS proceedings, during discussion related to dose-after-accident, it appeared that Dominion had used AST assumptions in dose calculations when it benefited the application, but then regressed to old Regulatory Guide 1.82 assumptions relating to 12% Gap Iodine to lower the calculated dose from the AST approach. The applicant should be allowed to use either AST or Regulatory Guide 1.82, but not both. This Chinese menu approach to dose assessment is not reasonable, given that the AST approach was designed because the old Regulatory Guide 1.82 approach was determined to be overly conservative.

**(4) Steam generator repair, under the conditions of a license amendment applied for ten months following the Millstone 3 power uprate application and two months following the deadline for the public to file a petition to intervene and request for hearing, presents an unreviewed safety issue.**

On May 8, 2008, Dominion applied to the NRC for a license amendment to apply what it calls "interim alternate repair criteria (IARC) for steam generator tube repair." This license amendment application was made two (2) months after the deadline for members of the public and others to challenge Dominion's application for power uprate at Millstone

Unit 3 by filing a petition to intervene and request for hearing. The application proposes to relax existing standards applied to assure steam generator tube integrity is maintained. The original application does not analyze the effect of the proposed power uprate in the event the later-applied-for amendment is granted.

**(5) Dominion has not provided the NRC with assurances that demonstrate that the emergency core cooling, decay heat removal and containment spray systems are in compliance with applicable regulatory requirements and that suitable design, operational and testing control measures are in place for maintaining this compliance.**

According to correspondence between the NRC and Dominion dated July 8, 2008,<sup>6</sup> Dominion has requested an extension of time within which to submit information to demonstrate that the emergency core cooling, decay heat removal and containment spray systems are in compliance with applicable regulatory requirements and that suitable design, operational and testing control measures are in place for maintaining this compliance. The final response date is October 11, 2008.

Apparently, to date, Dominion has been unable to assure the NRC that the Millstone Unit 3 emergency core cooling, decay heat removal and containment spray systems are in compliance with applicable regulatory requirements and that suitable design, operational and testing control measures are in place for maintaining this compliance.

Assurance of full regulatory compliance should have been required prior to the NRC's receipt of the significant Millstone 3 power uprate proposal.

Dominion's prospective assurances should be subject to review by the petitioners in these proceedings.

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<sup>6</sup> See ADAMS ML 081680474.

**(6) The sudden surge in pre-seasonal arrival of jellyfish at Waterford, Connecticut, shoreline, as a probable function of global warming, presents an issue unevaluated in the applicant's analysis of thermal impacts attributable to the estimated 7+ per cent increase in BTUs to the Long Island Sound.**

The pre-seasonal arrival of jellyfish on shorelines beaches surrounding Millstone in 2008, as described in the July 14, 2008 New London Day article, is a matter of concern to beachgoers and scientists alike. As reported by The Day, Megan Pried, identified as a jellyfish expert at the Mystic (Connecticut) Marineline Aquarium, attributed the early arrival of the jellyfish to warmer water temperatures in the Long Island Sound and the phenomenon of global warming.

It is scientifically acknowledged that global warming has had a variety of effects on the environment, including producing stresses that disrupt the habits of wildlife and marinelife. Dominion proposes to increase its discharge of BTUs to the Long Island Sound from Millstone Unit 3 by 7+ per cent to achieve its desired 7+ per cent power uprate. Dominion's Attachment 2 Supplemental Environmental Report does not address how global warming's influence may affect Dominion's analysis of the marine effects of the Millstone 3 proposed power uprate.

The petitioners intend to engage experts in order to establish, through an amended contention supported by expert declarations, that the Millstone 3 proposed uprate will have a far worse effect on the marine environment than it has projected because of the influence of global warming dynamics.

With regard to the petitioners' request for a continuing waiver of electronic-filing requirements, the petitioners previously requested exemption from the E-filing

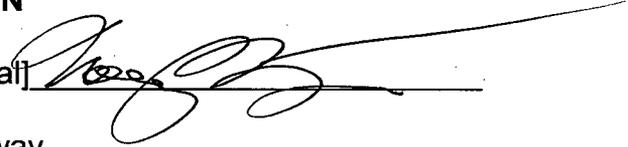
requirements, on March 17, 2008, for purposes of filing their petition to intervene in these proceedings. The exemption was granted.

On April 15, 2008, the petitioners moved for further exemption from E-filing requirements in these proceedings.

The ASLB Panel found good cause to grant the exemption. See Order dated April 16, 2008. However, the Order limited the exemption to the specific filing at hand. The petitioners presently face the same technical and financial obstacles which led to their request for exemption on April 15, 2008.

Despite good-faith efforts, including engaging the assistance of a qualified expert in computer systems, the petitioners are not yet technically able to perform E-filing according to NRC procedures. Moreover, the petitioners, a non-profit, *pro bono*, public advocacy organization, continue to lack the financial resources to invest the approximately \$500 which is apparently required to obtain an appropriate commercial computer application to enable E-filing performance, which is not otherwise needed for CCAM's functions. The petitioners continue to search diligently for equivalent alternatives.

Respectfully submitted,  
**CONNECTICUT COALITION AGAINST MILLSTONE**  
**NANCY BURTON**

[Signed in original]   
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## Invasion Of The Jellyfish

By CAITLIN WOLTER

Published on 7/14/2008 in Home »Region »Region News

Waterford beach lifeguards Anders Drew and Silvia Stockman spend most of their mornings now scooping up swarms of jellyfish from the shoreline before beachgoers arrive. But all their scooping still can't stop people from getting stung.

"This is probably the worst year we have had," said Stockman, who's been at the beach four years.

Drew, the head lifeguard, agreed.

"They beat us here this year," he said.

While jellyfish are common at the region's beaches each summer, they've arrived earlier than normal.

"They've been stung today already," said Barbara Stack of Waterford Saturday afternoon, motioning towards her two daughters and a friend who were playing at the water's edge.

Barbara and her husband, Ted, grew up in Waterford. Both said they did not remember a jellyfish problem in their childhood.

Dave Simpson, the acting director of marine fisheries for the Department of Environmental Protection, said the jellyfish invading Long Island Sound this year are "typical" lion's mane jellyfish, which, apart from a minor sting, do not present much of a threat to beachgoers unlike the Portuguese man-of-war that washed up on Westerly and Stonington beaches last summer.

The fruitful jellyfish population, however, is not as alarming as their ahead-of-schedule debut to southeastern Connecticut shores, according to jellyfish expert Megan Pried.

Pried, who has worked for the last year and a half at the Mystic Aquarium and Institute for Exploration, said it is normal for jellyfish to be this abundant. What is out of the ordinary is their advanced arrival.

Pried said that locals reported jellyfish sightings as early as April. The normal jellyfish season begins at the end of May or the beginning of June, she said.

She credited the jellies' early arrival to warmer water temperatures.

"I do believe that global warming has some play in the temperatures warming up," she said. "A lot of animals just go by temperature. They don't really know what else is going on."

Pried explained that if jellyfish sense the water has reached a certain temperature, they will start reproducing and grow larger regardless of the season. She also said when the water is warmer, there is more food, helping the jellies grow faster, and prompting them to migrate to an ample food source.

The jellyfish follow their food - algae blooms - or come this direction with the Gulf Stream.

At the aquarium, Pried said the water is purposefully warmed, causing baby jellyfish, called ephyra, to come off of their polyps and begin feeding and moving about.

This is currently taking place in Long Island Sound. Due to balmy seas, the ephrya are now starting this process prematurely. But jellies are not the only confused marine life. "Lionfish and other tropical fish that follow the Gulf Stream pop up in our waters and are not normally here," Pried added.

She warns that lionfish are a venomous species that can cause a great deal of pain to bathers. She also said she would not be surprised to hear reports of more Portuguese man-of-war sightings.

"If they become more abundant, it would certainly be a means of concern," she said.

Pried says the best remedy for a jellyfish sting is to get the tentacle off the body by grabbing a handful of sand and rubbing it on the skin. She also said vinegar, and sometimes hot water, can dilute a jellyfish sting.

People who suffer from a bee allergy can potentially have a worse reaction to a jellyfish sting, she added.

Besides the red-colored lion's mane jellyfish, the stinging sea nettle, nonstinging moon jellies, and other jellyfish species are all present in local waters, she said.

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of

Docket No. 50-423-OLA

Dominion Nuclear Connecticut, Inc.  
(Millstone Nuclear Power Station,  
Unit 3)

ASLBP No. 862-01-OLA-BD01

August 7, 2008

**CERTIFICATE OF SERVICE**

I certify that copies of the "CONNECTICUT COALITION AGAINST MILLSTONE AND NANCY BURTON REVISED MOTION FOR LEAVE TO FILE THEIR NEW AND/OR AMENDED CONTENTIONS BASED ON RECEIPT OF NEW INFORMATION AND FOR CONTINUING WAIVER OF ELECTRONIC FILING" was transmitted on August 7, 2008 by email and by U.S. Mail, First Class, postage pre-paid to the individuals and offices as indicated below:

Office of the Secretary  
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U.S. Nuclear Regulatory Commission  
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