

EDO Principal Correspondence Control

FROM: DUE: 10/26/11

EDO CONTROL: G20110715
DOC DT: 09/07/11
FINAL REPLY:

Senator Jeff Bingaman

TO:

Rebecca Schmidt

FOR SIGNATURE OF :

** GRN **

CRC NO: 11-0551

Borchardt, EDO

DESC:

ROUTING:

Constituent's Concern re: Boiling Water Reactors
(EDATS: SECY-2011-0526)

Borchardt
Weber
Virgilio
Ash
Mamish
OGC/GC
Leeds, NRR
Burns, OGC
Schmidt, OCA

DATE: 09/29/11

ASSIGNED TO:

CONTACT:

EDO

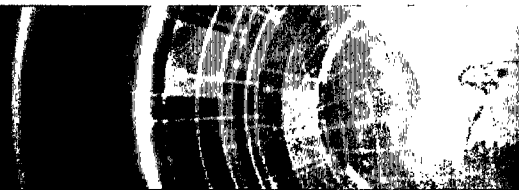
Rihm

SPECIAL INSTRUCTIONS OR REMARKS:

Please prepare response in accordance with OEDO
Notice 2009-0441-02 (ML093290179). NRR to provide
input to Roger Rihm, OEDO, if required. Roger will
coordinate with OGC and OCA.

Implate : SECY-017

E-Refs : SECY-01



EDATS Number: SECY-2011-0526

Source: SECY

General Information

Assigned To: OEDO

OEDO Due Date: 10/26/2011 11:00 PM

Other Assignees:

SECY Due Date: 10/28/2011 11:00 PM

Subject: Constituent's Concern re: Boiling Water Reactors

Description:

CC Routing: NRR

ADAMS Accession Numbers - Incoming: NONE

Response/Package: NONE

Other Information

Cross Reference Number: G20110715, LTR-11-0551

Staff Initiated: NO

Related Task:

Recurring Item: NO

File Routing: EDATS

Agency Lesson Learned: NO

OEDO Monthly Report Item: NO

Process Information

Action Type: Letter

Priority: Medium

Signature Level: EDO

Sensitivity: None

Urgency: NO

Approval Level: No Approval Required

OEDO Concurrence: NO

OCM Concurrence: NO

OCA Concurrence: NO

Special Instructions: Please prepare response in accordance with OEDO Notice 2009-0441-02 (ML093290179). NRR to provide input to Roger Rihm, OEDO, if required. Roger will coordinate with OGC and OCA.

Document Information

Originator Name: Senator Jeff Bingaman

Date of Incoming: 9/7/2011

Originating Organization: Congress

Document Received by SECY Date: 9/29/2011

Addressee: Rebecca Schmidt

Date Response Requested by Originator: NONE

Incoming Task Received: Letter

**OFFICE OF THE SECRETARY
CORRESPONDENCE CONTROL TICKET**

Date Printed: Sep 29, 2011 09:07

PAPER NUMBER:	LTR-11-0551	LOGGING DATE:	09/28/2011
ACTION OFFICE:	EDO		
AUTHOR:	SEN Jeff Bingaman		
AFFILIATION:	CONG		
ADDRESSEE:	Rebecca Schmidt		
SUBJECT:	Concerns boiling water reactors		
ACTION:	Signature of EDO		
DISTRIBUTION:	OCA to Ack		
LETTER DATE:	09/07/2011		
ACKNOWLEDGED	No		
SPECIAL HANDLING:			
NOTES:			
FILE LOCATION:	ADAMS		
DATE DUE:	10/28/2011	DATE SIGNED:	

EDO --G20110715

United States Senate

September 7, 2011

Ms. Rebecca Schmidt
Director
Office of Congressional Affairs Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Ms. Schmidt:

I received the enclosed letter from Dr. Jack Castle regarding boiling water reactors. I would appreciate your assistance in responding to my constituent's concerns. Please respond directly to my constituent and provide Lauren Sher in my office with a copy of your response.

Thank you for your attention to this matter.

Sincerely,



Jeff Bingaman
United States Senator

JB/ls

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Date: August 22, 2011
To: Senator Jeff Bingaman, Attention: Lauren Sher
Re: Request to Force NRC to Restore Hydrogen Gas Ignition to the Status
of REQUIRED SAFETY MEASURES in every BWR generating
power in the US.
From: John G. Castle, PhD (physics), Yale 1950
Ref: Our phone conversation of this morning

Summary of this e-msg: Four historical events are presented in brief, as supporting evidence for my request for Congressional action to assure the 20+ BWRs on the US electric grid are not able to give us another Fukushima when a hurricane or tornado chooses to hit one of them.

Those four historical events are:

I. Three-Mile Island (TMI) Meltdown in 1979, offering safety lessons as a near-miss.

II. Downgrade by NRC in 2003 of Hydrogen Gas Ignition (H2I) from Required to Optional. This

began our exposure to likely meltdowns at US BWR power plants from big winds.

III. Hydrogen Gas Explosions (H2E) at Fukushima appear to have disbursed more hot trash

than the Chernoble meltdown in Ukraine did. Hot stuff is apparently still being

pumped out into the Pacific Ocean.

IV. Continued Downgrade of H2I by NRC in its July Report may still keep us in the danger of a

tornado or severe flood at any of our operating BWRs producing Chernoble-like

distribution of long-lived hot radioactive debris.

I. Lessons in brief from the Three-Mile Island Meltdown (TMIM) in 1979 at Harrisburg, PA:

TMIM was halted safely by returning cooling water to the core after the water being off for a short time. Somehow there was ignition of the hydrogen gas escaping into the big brick secondary containment structure, probably from Exit lights broken in the H2 explosion

that ruptured the primary container. The safety lessons offered by TMIM are many.

The precipitating cause of the meltdown at TMI was the fact that the unprepared staff

in the control room got confused by the waving needles in the gauges and turned the cooling water off by moving the main pump switch handle from being DOWN near the floor

to its UP position. According to their testimony right after the event, the control operators

decided after some 20 minutes that they had made a mistake and they lowered the big handle

DOWN to near the floor to turn ON the water.

Fortunately the water flowed in fast enough to quench the melting of the core and prevented

a much bigger hydrogen explosion in the core itself. Harrisburg was thus saved.

This process has been detailed in my technical report, SNLabs, Albq. NM, dated December 1980.

Apparently in 1981 or so the NRC recognized the need for hydrogen gas ignition to be on-line

at all BWRs as a result of the TMIM. Unfortunately by 2003 the new NRC staff had apparently

forgotten our lessons from the TMIM.

II. Danger returns with the Downgrade of H2I by NRC from Mandatory to Optional in 2003.

A week or so after the Dai Ichi plant first blew, my son, J. Lemoyne Castle, uncovered this directed downgrade by reading the long NRC Directive issued in 2003. The NRC rationale for agreeing to the 2003 downgrade, requested by the Electric Power Institute, flies in the face of the way BWR meltdowns occurred this Spring at Fukushima.

III. Safety Lessons for US from BWR meltdowns at Fukushima (FukUM) in 2011.

Again the safety lessons for us from the Japanese meltdowns are many. The two prime lessons for safer operation of the dozens of BWR plants on the US grid are: First, to restore to Mandatory Status the on-line operation of the hydrogen ignition systems that were in operation in 2002. Second, to assure the backup supply of days of cooling water in the face of recent tornadoes that have flattened wide sections of several cities like Greenburg, KS, Joplin, MO, and Huntsville, AL.

NRC is delinquent if they are not already working on fixes for these two lessons. From the little I have heard about the 90-day report delivered last week to the white House, I am not hopeful.

IV Lessons from the recent NRC Report on Meltdowns at the Dai Ichi power plant.

Please tell me that our NRC staff is already working out effective solutions to the prime safety lessons cited in the above paragraph about the meltdowns at Fukushima. If they are, then the next question is: when will the Japanese have a closed water cooling system working for avoidance of further explosions at Dai Ichi and for cessation of their pumping or leaking radioactive debris into the north Pacific?

Closing Comments:

I reported for work at the Sandia National Labs in June 1980 as one of their Senior Scientists. I was honored to be assigned to find out what had happened the previous summer at one of the boiling water reactors (BWRs) in the Three-Mile Island power plant. Apparently my requests in 1980 were honored by NRC requiring some useful safety moves.

I am pleased for this opportunity to call to your attention the dangers of tolerating our present practices in BWR power operations. I would be honored by your responses to my request for action by NRC to restore some safety to our sagging electric grid.

If you wish any more info from me, I would be happy to respond to your request. Senator Bingaman, you have done very well in your long service to our country. Thank you for your effective staff.
Sincerely Yours

Signed John G. (Jack) Castle, 505.293.8379 or e-msgs to: jcastle9801@comcast.net
or USPS delivery to 9801 San Gabirel Road
NE, Albq., NM 87111.

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