

# PUBLIC SUBMISSION

<b>As of:</b> February 27, 2012
<b>Received:</b> February 27, 2012
<b>Status:</b> Pending_Post
<b>Tracking No.</b> 80fc3854
<b>Comments Due:</b> March 01, 2012
<b>Submission Type:</b> Web

**Docket:** NRC-2012-0022  
State-of-the-Art Reactor Consequence Analyses Reports

**Comment On:** NRC-2012-0022-0005  
State-of-the-Art Reactor Consequence Analyses Reports

**Document:** NRC-2012-0022-DRAFT-0019  
Comment on FR Doc # 2012-02313

*2/27/2012*  
*77 FR 5281*  
*14*

## Submitter Information

**Name:** Aladar Stolmar  
**Address:**  
Szabadsag ter 3  
Lorinci, HU3021  
**Submitter's Representative:** none  
**Organization:** none  
**Government Agency Type:** Foreign  
**Government Agency:** none

RECEIVED  
2012 FEB 27 AM 10:37  
RULES AND DIRECTIVES  
SECTION 1  
1/27/2012

## General Comment

Objectives "Incorporate state-of-the-art integrated modeling of severe accident behavior, which includes the insights of several decades of research into severe accident phenomenology ..." goal could be achieved that way, disregarding the very key phenomenon of Zirconium firestorm in steam. No surprise that the objective does not extend on the improving the safety of Nuclear power plants, which would be the duty of NRC!

Once and for all let's describe the fuel destruction causing processes as it happens and happened in all severe nuclear power plant accidents:

1. Stagnant steam covers significant parts of the fuel containing region, core of the reactor.
2. The steam heats-up to above 600 C and the Zirconium cladding in places with reduced or damaged oxide cover goes into runaway, self-catalytic reduction of water molecules and oxidizing with the reaction heat igniting a fire.  $Zr + 2H_2O = ZrO_2 + 2H_2 + 5MJ/kgZr$  reacted.
3. Firestorm engulfs the core with intense upward Hydrogen flow jets and precipitating downward Zirconium dioxide, which – together with eroded fuel pellet parts, UO<sub>2</sub> molecules - dropping down into the water pool supplies the steam for the oxidizer in the firestorm. The down leg forms on the periphery in the colder regions of core and through the bypass channels of shroud cooling passages.

*SONSI Review Complete*

And yes, by incorporating the real process it is obvious that adding a depressurization vent will avoid the severe accident, will prevent the fuel damage.

*Template = ADM-013*

*FRDS = ADM-013*

*see = P. Antwerp (pas 2)  
J. M... (5x67)*