

McKenzie, Kieta

From: Drausio Atalla [REDACTED]
Sent: Thursday, December 10, 2015 7:42 AM
To: NRC Allegation
Subject: [External_Sender] Indian Point 2 rod drop event on December 5, 2015

Gentlemen

Looking at my income e-mails, I looked at one event at IP2 NPP on December 5, 2015, related with 10 control rods drop. The you tube message described that 10 rods have dropped on the IP2 reactor core, with the reactor at power, followed by operators actions manually tripping the reactor. The message was such that it was considered a important event, NRC was involved, but it was not recognised the entire threat of the event. It happens that a Westinghouse PWR reactor protection system is loaded with about 20 automatic reactor trips, one of than called NEGATIVE POWER RATE TRIP, typically adjusted in 5 or 10%/2 seg (my memory is already old) to detect falling rods and trip the reactor automatically (not manually). The design is such that just one rod, or a couple, falling would be enough to activated the reactor protection system, so it would detect the anomaly and take immediatly automatic action, tripping the reactor by dropping all the rods and tripping the turbo generator in parallel. What happens is that if the report I read is correct, IP2 experienced an ANTECIPATED TRANSIENT WITHOUT SCRAM, or ATWS, what constitutes a beyond design event with high risk for reactor core integrity. The reason is due to a neutron flux reduction in the vicinities of the fallen rod (s), in this case, 10 rods, followed by a similar neutron flux increase in other parts of the core, since the reactor output stays constant. As neutron flux increases to compensate the rod drops without scram effect, we have what we call DNBR (departure from nucleate boiling) reduction on the reactor areas where neutron flux increased, with considerable risk of damaging the fuel cladding, what constitutes an accident. If the description is correct, the event is very serious, what the report does not let me to capture. So there is a risk that the event was not understood. It is reported the unit may return to power in couple days, what would be an acute complacency.

Please be advised that I am not an american citizen, I live in Brazil, but spend 37 years working in numerous positions on nuclear power stations, including training in the US. As an operator, I can not read what I read and do not interface. It is a matter of safety culture and an obligation of every nuclear professional. If I am wrong please forgive me, but I prefer to be wrong on the safety side, than to be complacent with such an important matter.

Sincerely

Drausio Lima Atalla
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