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TECHNICAL PAPER/PRESENTATION

Subject:	“Qualification and Implementation of 37M Fuel into CANDU Reactors: A Regulatory Perspective”
Presented at:	13 th International Conference on CANDU Fuel
Date:	August 15-18
Location:	Kingston ON.
Prepared by:	Kelly T. Conlon
Type:	Abstract of a technical paper/presentation

Qualification and Implementation of 37M Fuel into CANDU Reactors: A Regulatory Perspective

Abstract of the technical paper/presentation presented at:

13th International Conference on CANDU Fuel
August 15-18, Kingston Ontario CANADA

Prepared by:
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Abstract:

In 2009, research performed under the auspices of the CANDU Owners Group (COG) demonstrated a slight reduction in diameter of the standard 37 Element CANDU Bundle center element resulted in an enhancement of the bundle operating safety margin via the Critical Heat Flux (CHF). Subsequently, the Ontario-based Utilities undertook design verification activities of the new design (termed “37M”), including analyses and tests to demonstrate that the modified fuel was qualified to operate under the in-core conditions imposed upon it. All existing CANDU power reactor licenses require CNSC concurrence to implement new fuel designs. As of December 2015, all of the current operating units utilizing 37 element fuel in Ontario (Darlington, Bruce “A” and Bruce “B”) have

commenced conversion to the new 37M design. The purpose of this talk is to discuss, from the regulators perspective, the process of implementation of the 37M fuel design, including A) the scope of internal reviews supporting the design change request, B) regulatory “lessons learned”, and C) the path forward for possible future CANDU fuel designs featuring improved margins

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