

Fuel Particle Transport (Public)

Morris Byram, Scott Franz, Jeff Lane

February 2021

Meeting Objectives

Review Framatome's plan to assess fuel particle transport and settling in the reactor related to FFRD

Provide an opportunity for NRC feedback

Agenda

Introduction

Function of the study

Application of transport code

Qualification of transport code planned

Models

Summary

Next Steps

Morris Byram

Scott Franz

Scott Franz

Jeff Lane

Scott Franz

Morris Byram

Morris Byram

Introduction

Morris Byram

Introduction

Evaluation of Fuel Fragmentation, Relocation and Dispersal (FFRD) is part of the increased burnup topical report

An evaluation of potential fuel particle transport and settling is part of the FFRD evaluation

Framatome is planning on using a system thermal-hydraulic code to simulate fuel particle transport and settling following dispersal from a fuel rupture during a LOCA event

The system thermal-hydraulic code's qualifications for evaluating fuel particle transport behavior have been assessed and will be discussed today

Results from the studies will be used to provide conservative conclusions to support downstream evaluations of fuel particle transport and settling following dispersal

DOE Acknowledgment and Disclaimer

Acknowledgment: “This material is based upon work supported by the Department of Energy under Award Number DE-NE0008818.”

Disclaimer: “This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.”

Any reproduction, alteration, transmission to any third party or publication in whole or in part of this document and/or its content is prohibited unless Framatome has provided its prior and written consent.

This document and any information it contains shall not be used for any other purpose than the one for which they were provided. Legal action may be taken against any infringer and/or any person breaching the aforementioned obligations

framatome

