

**DTE Energy®**



# **Planned Implementation of DCD Rev. 7 & 8 Soil Properties**

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# Introductions

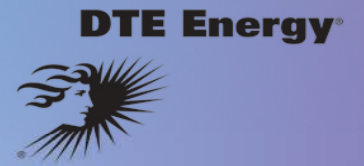
## **NRC**

- M. Tonnacci, NRO
- A. Muniz, NRO
- J. Hale, NRO
- C. Cook, NRO
- Y. Li, NRO
- Z. Xi, NRO
- K. Hawkins, NRO
- N. Gilanshahi, NRO
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## **Fermi 3**

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- C. Becker, DTE
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- S. Niogi, GEH
- S. Thomas, B&V
- E. Meyer, B&V
- R. Youngs, AMEC Geomatrix

# Opening Remarks

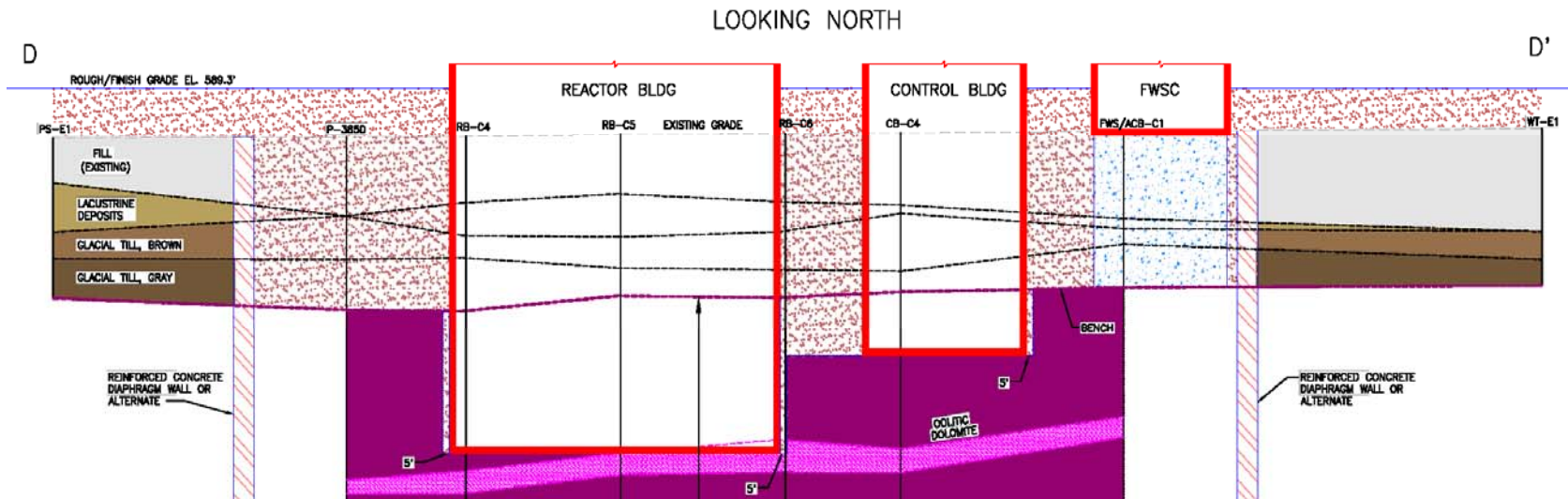


NRC



# Background

- DCD, through Rev 6, did not have a minimum shear wave velocity specification which the material surrounding the Class I structures had to satisfy





## Background

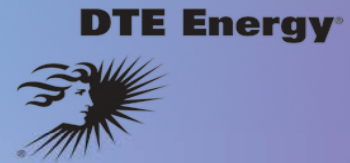
- Initially questioned practicality of satisfying apparently competing soil properties
- Site-specific soil structure interaction appeared to be most direct approach for Fermi 3 COLA
- Identified as potentially one of the larger schedule impacts to the Fermi 3 COLA
- Communicated potential schedule impact verbally in July & formally communicated a March 2011 completion date in September, but continuing to explore options to improve schedule



## Exploring Options

- Recently, GEH has satisfied Detroit Edison that soil properties can be met
- Soil Structure Interaction analysis is not required to implement DCD Rev 7/8
- Resultant changes to Fermi 3 COLA are straightforward & have minimal impact

# COLA Changes to Implement DCD Rev. 7/8 Soil Properties



- 2.5.4.5.4.2, *Backfill Materials & Quality Control*
  - Minimum shear wave velocity for surrounding material
  - Removal of at-rest pressure coefficient requirement (deleted from DCD Rev. 6)
  - Increase to minimum soil density requirement (corresponding to DCD Rev. 7)
- Table 2.0-201
  - Maximum static & dynamic bearing demands - revised description to address DCD Rev. 8 required safety factor to minimum static & dynamic bearing capacity
  - Incorporate above noted 2.5.4.5.4.2 changes



## Next Steps

- Update September 21 schedule letter
  - Provide submittal date for markups
- Markups may be provided coincident with remaining DCD Rev. 7/8 changes in mid-November





## Disposition of Agenda Items

- Evaluation of Dynamic Bearing Pressure on Soil
  - Dynamic bearing pressures referenced from DCD (unchanged in Rev 7)
- Evaluation of Seismic Lateral Earth Pressure
  - Analysis presented in FSAR 2.5.4.10.3.2 remains unchanged from that presented
- Shear wave velocity for material surrounding Class I structures