Enclosure 7
Aircraft Impact Assessment (AIA) Overview
(Redacted)

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Aircraft Impact Assessment (AIA) Overview (Redacted Version)

31 October 2012

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This is a pre-application document and includes preliminary B&W mPower Reactor design or design supporting information and is subject to further internal review, revision, or verification.

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Aircraft Impact Assessment

- Objectives
- Plant Layout
- AIA Introduction

----------Break

- Preliminary Review
- Draft Initial Assessment
- Conclusions
- Discussion

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OBJECTIVES

- Discuss preliminary efforts and results of AIA for the B&W mPower™ Plant
- Solicit NRC staff comment and feedback on progress and plans

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Plant Layout

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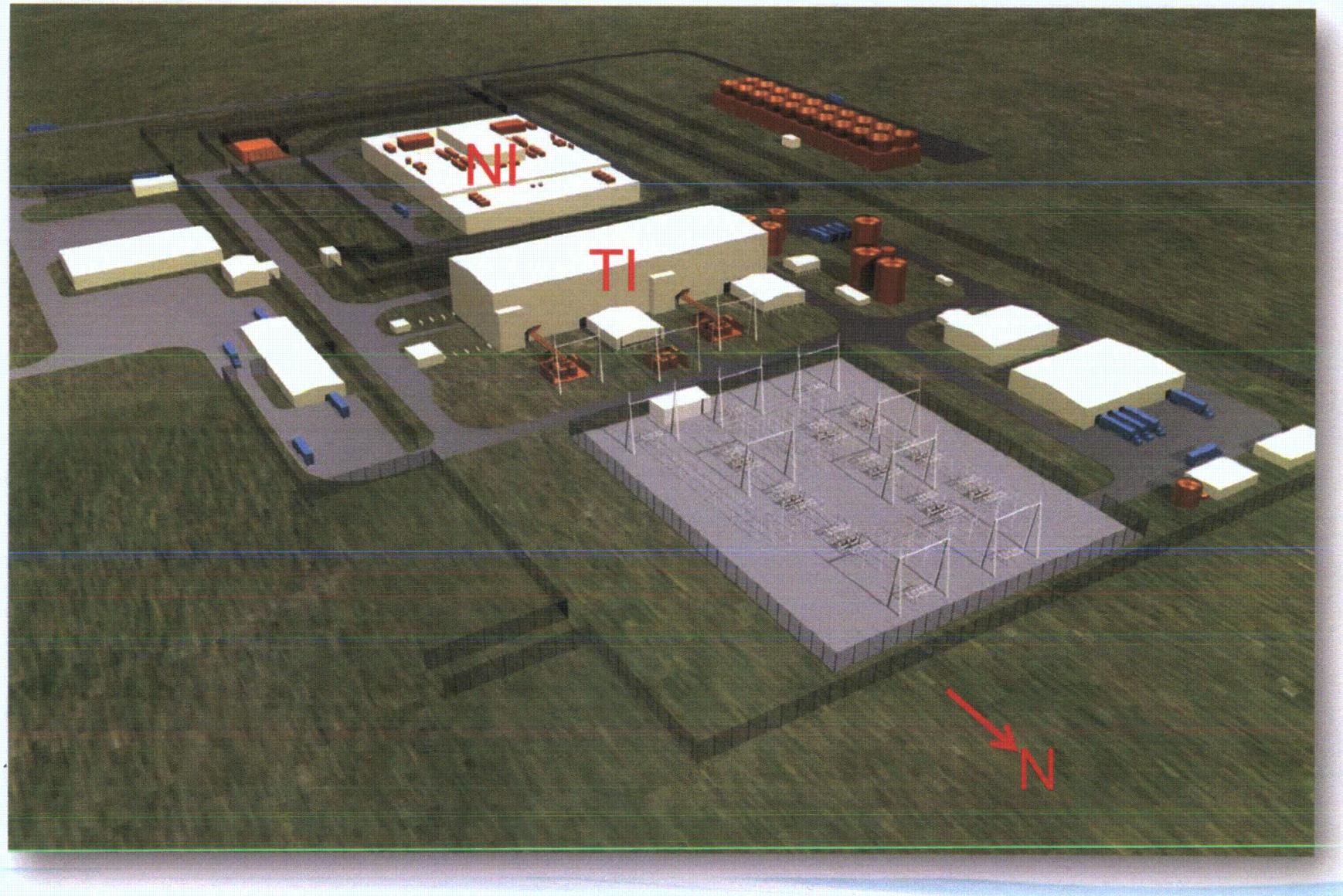
Site Overview Looking South



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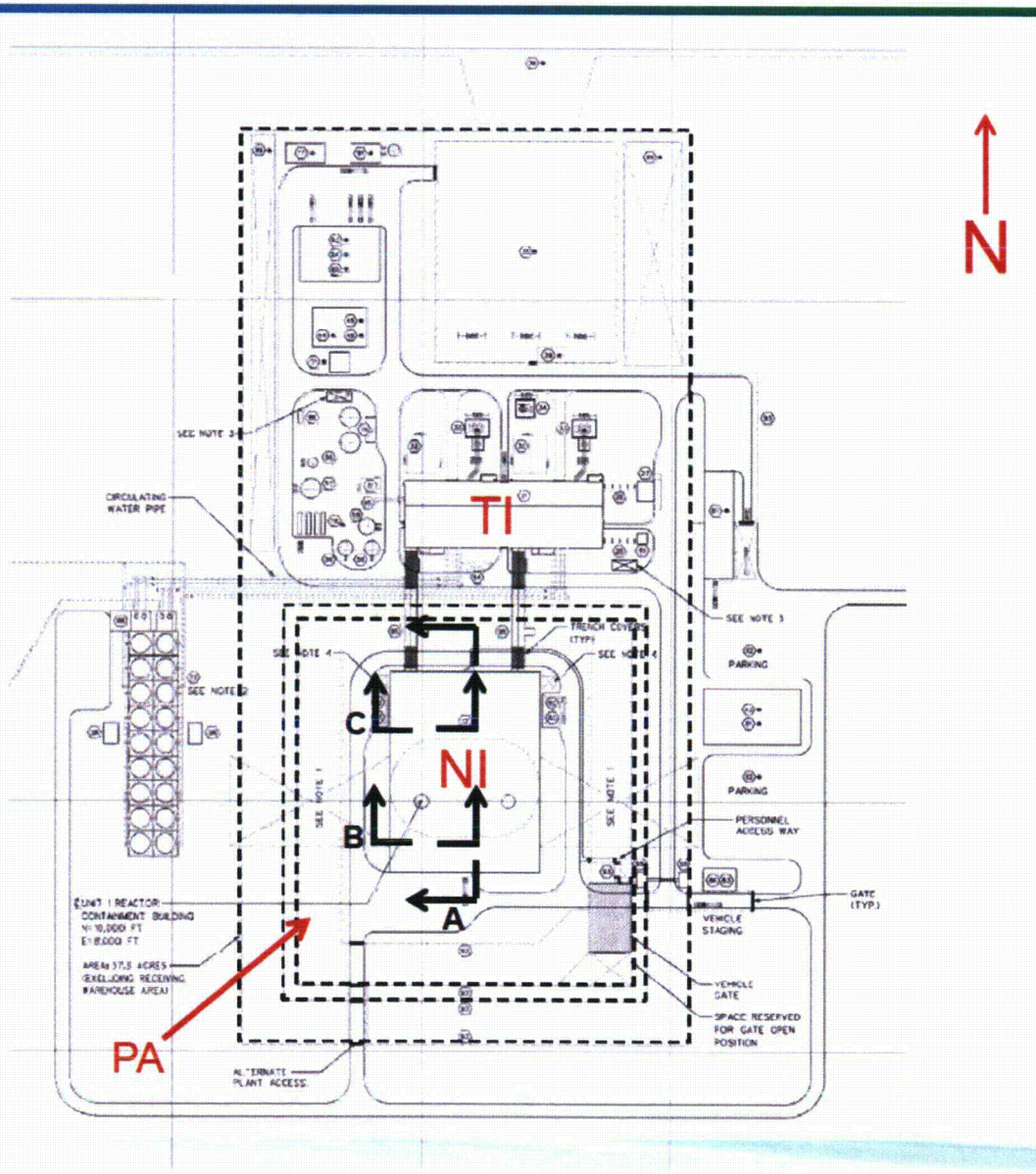
Plot Plan



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NI Model Cut Looking West

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NI (RSB) Model Cut Looking North

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NI (Annex) Model Cut Looking North

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RCB Looking West

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Nuclear Island (RSB) Plan El. [ ]

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AIA Introduction

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AIA Introduction

- Assessment performed using NEI 07-13, Rev. 8
- Section 2.0 of NEI 07-13 not applied [
  -]
- Section 3.0 Heat Removal Assessment
  - Physical damage
    [•
    ]
    - Assessed using "N" wall rule set
  - Shock Damage
    - Propagated through structural pathways per NEI 07-13 guidance

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AIA Introduction (cont'd)

- Section 3.0 Heat Removal Assessment (cont'd)
  - Fire Damage
    - Propagated using NEI 07-13 fire rule sets
    - Two barrier option used for door propagation
    - One barrier option used for[
      ]
    - Structural steel exposed to fire assumed to fail

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Preliminary Review

- Conducted Spring 2012 on Earlier Design
  - Limited number of strikes selected to bracket perceived "worst case"
- Major Insights
  - [
  -
    -
    -
      ]
    - Example Strike that follows illustrates above insights

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Overview of Example Strike for Key Elevations

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Preliminary Review

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Preliminary Review

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Preliminary Review

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Preliminary Review

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Preliminary Review

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Preliminary Review

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Draft Initial Assessment

- Complete set of postulated strikes
  - Strikes separated by IMPW distances per NEI 07-13
  - [
  -]
  - Strike locations depicted in following slide

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Draft Initial Assessment

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Draft Initial Assessment

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Draft Initial Assessment

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Assessment Overview for Key Elevations

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Draft Initial Assessment

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Draft Initial Assessment

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Draft Initial Assessment

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Draft Initial Assessment

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Draft Initial Assessment

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Design Concepts Being Considered

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Path Forward

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Conclusions

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Discussion

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