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# CPA Development and Preparation

January 23, 2014

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- Project Overview and Update
- CPA Development Status
- TVA's Response to RIS 2013-18
- CPA Development
- PSAR Development
- Consistency Going Forward
- Closely Coordinated Review Concept
- Summary
- Questions

# Purpose of Meeting

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- Provide project overview and update
- Review TVA's Response to RIS 2013-18
- Describe the CPA development process including the closely coordinated review between the Generation mPower™ DCA and TVA's CPA
- Describe the process for maintaining consistency between the DCA and CPA going forward

# Project Overview and Update

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- **Site Characterization**
  - Core Borings have been completed
  - Groundwater model development underway
- **Design Reviews**
  - Personnel on board to perform engineering reviews supporting the DCA.
  - Reviews ensure engineering info adequately supports the design application information.
- **Evacuation Time Estimate**
  - Coordinating with Tennessee Emergency Management Agency (TEMA) and Virginia Tech Transportation Institute and local officials from Anderson, Loudon, Knox and Roane on traffic surveys.
- **Flood Analysis**
  - Being carefully coordinated with the rest of the TVA fleet

# CPA Development Status

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- CPA Part 1 - Initial draft of General and Administrative scheduled for January 2014
- CPA Part 2 - PSAR development has started with initial sections completed in January 2014
- CPA Part 3 - Environmental Report development ongoing
- CPA Part 5 – draft of Emergency Plan completed and under review

# TVA Response to RIS 2013-18

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- No significant changes from response to 2012-12
- CPA submittal planned for second quarter 2015
- TVA and Generation mPower continue to work closely to coordinate and integrate plans and schedules.

Goal: To produce a high-quality CPA, consistent in content and style and format with the DCA

Two primary documents direct CPA Development:

- Clinch River Project Construction Permit Application Style Guide
- Construction Permit Application (CPA) Preparation Instruction

- Developed to be consistent with mPower™ DCA style guide
- Used in conjunction with the CPA Preparation Instruction and provides
  - General guidance for appearance of text, tables, and figures
  - General guidance on “language”
  - Approach for differentiating DCD text from Clinch River-specific text (i.e., annotation scheme)



Provides guidance for CPA development, review and publication

- Begin with full DCD text for PSAR
- Determine DCD content that is not applicable or not required or desired for inclusion
- Identify additional content required for CPA by regulations and/or regulatory guidance
- Identify DCD COL Items and determine associated CPA resolution for PSAR

Generally, PSAR uses full DCD text incorporation for DCD information required to be included for the CPA.

Exceptions to full DCD text incorporation include DCD information that:

- is not required for CPA and is not included, to retain construction flexibility
- does not apply to CPA and is not included
- is limited, site-specific information needed for CPA
- must be changed for the CPA

CPA annotation differentiates standard plant (DCD) from Clinch River-specific content and highlights the commonality between the two documents.

Color	Description
DCA content	CPA content consistent with mPower DCA content
<del>striketrough</del>	mPower DCA content that is not applicable for a CPA
CPA difference	CPA content which differs from mPower DCA content (equivalent to a departure in Part 52)
<del>striketrough</del>	mPower DCA content not included in the CPA (e.g., to maintain construction flexibility)
CPA content	Site-specific CPA content

# Example – PSAR Section 1.4

## Begin with DCD Section 1.4:

### 1.4 Identification of Agents & Contractors

#### 1.4.1 Applicant/Program Manager

Generation mPower, LLC (GmP) is a company formed to design, license, and deploy nuclear power plants based on the B&W mPower™ small modular reactor (SMR) technology. A subsidiary of The Babcock & Wilcox Company (B&W) controls a majority interest in GmP and a subsidiary of Bechtel Enterprise Holdings, Inc. controls the remaining interest. GmP, headquartered in Charlotte, North Carolina, is the applicant for the design certification of the mPower standard plant.

#### 1.4.2 Principal Contractors and Participants

To support development of the mPower standard plant design, GmP is supplemented by contract support from, Babcock & Wilcox mPower, Inc. (B&W mPower) and Bechtel Power Corporation (Bechtel). GmP provides direction to the contractors, companies, and firms involved with the design and development of the mPower standard plant and ensures design elements are integrated into a single cohesive, consistent licensing basis.

The COL Applicant is to identify major agents, contractors, and participants for the COL application development, detailed engineering, facility construction, and plant operation, including the division of responsibility between these organizations (COL 1.4-1).

*Additional DCA information...*

#### 1.4.3 COL Information Items

COL 1.4-1 The COL Applicant is to identify major agents, contractors, and participants for the COL application development, detailed engineering, facility construction, and plant operation, including the division of responsibility between these organizations.

**EXAMPLE ONLY**

# Example – PSAR Section 1.4

## Remove DCD content that is not applicable to CPA:

### 1.4 Identification of Agents & Contractors

#### 1.4.1 Applicant/Program Manager

Generation mPower, LLC (GmP) is a company formed to design, license, and deploy nuclear power plants based on the B&W mPower™ small modular reactor (SMR) technology. A subsidiary of The Babcock & Wilcox Company (B&W) controls a majority interest in GmP and a subsidiary of Bechtel Enterprise Holdings, Inc. controls the remaining interest. GmP, headquartered in Charlotte, North Carolina, is the applicant for the design certification of the mPower standard plant.

#### 1.4.2 Principal Contractors and Participants

To support development of the mPower standard plant design, GmP is supplemented by contract support from, Babcock & Wilcox mPower, Inc. (B&W mPower) and Bechtel Power Corporation (Bechtel). GmP provides direction to the contractors, companies, and firms involved with the design and development of the mPower standard plant and ensures design elements are integrated into a single cohesive, consistent licensing basis.

~~The COL Applicant is to identify major agents, contractors, and participants for the COL application development, detailed engineering, facility construction, and plant operation, including the division of responsibility between these organizations (COL 1.4-4).~~

*Additional DCA information...*

#### 1.4.3 COL Information Items

~~COL 1.4-1 The COL Applicant is to identify major agents, contractors, and participants for the COL application development, detailed engineering, facility construction, and plant operation, including the division of responsibility between these organizations.~~

**EXAMPLE ONLY**

# Example – PSAR Section 1.4

## Add required site-specific PSAR content:

### 1.4 Identification of Agents & Contractors

#### 1.4.1 Applicant/Program Manager

The Tennessee Valley Authority (TVA) is the applicant for a Construction Permit (CP) for four B&W mPower™ units at the Clinch River Nuclear Plant and will own and operate Units 1 through 4 (i.e., two pairs of the twin-unit standard plant). TVA is one of the nation's largest public power producers. TVA was established by Congress in 1933 to address a wide range of environmental, economic, and technological issues, including the delivery of low-cost electricity and the management of natural resources. TVA's...

Generation mPower, LLC (GmP) is a company formed to design, license, and deploy nuclear power plants based on the B&W mPower™ small modular reactor (SMR) technology. A subsidiary of The Babcock & Wilcox Company.....

*...additional site-specific information*

#### 1.4.2 Principal Contractors and Participants

To support development of the mPower standard plant design, GmP is supplemented by contract support from, Babcock & Wilcox mPower, Inc. (B&W mPower) and Bechtel Power Corporation (Bechtel). GmP provides direction to the contractors, companies, and firms involved with the design and development of the mPower standard plant and ensures design elements are integrated into a single cohesive, consistent licensing basis.

~~The COL Applicant is to identify major agents, contractors, and participants for the COL application development, detailed engineering, facility construction, and plant operation, including the division of responsibility between these organizations (COL 1.4-4).~~

*....additional site-specific information*

#### 1.4.3 COL Information Items

~~COL 1.4-1 The COL Applicant is to identify major agents, contractors, and participants for the COL application development, detailed engineering, facility construction, and plant operation, including the division of responsibility between these organizations.~~

*Not used.*

EXAMPLE ONLY

# Example – Excluded Content

The following is provided as *an example* of a case where mPower DCA content was not included in the CPA (e.g., to maintain construction flexibility)

The DCD might state:

- The maximum differential settlement across the basemat in any direction is 1/2 inch in 50 feet

To maintain construction flexibility, the CPA might have the following:

- ~~• The maximum differential settlement across the basemat in any direction is 1/2 inch in 50 feet~~

# Example – Differing Content

The following is provided *as an example* of a case where CPA content differs from mPower DCA content (equivalent to a departure in Part 52)

The DCD might state:

- The maximum differential settlement across the basemat in any direction is 1/2 inch in 50 feet

The CPA might strike the text AND add new text which differs from mPower DCA

- The maximum differential settlement across the basemat in any direction is ~~1/2 inch~~ 3/4 inch in 50 feet



# Consistency Going Forward

- Consistency ensured by procedure and implementation
- Procedure instructs author to begin with DCD text
- Implementation:
  - TVA reviewing DCA as a member of the mPower Consortium
  - TVA included on the mPower distribution list
  - Committed to a configuration management process
- Overlap of personnel authoring DCA and CPA sections

# Consistency Going Forward (Cont.)

- DCA content included in CPA Rev. 0 will reflect DCA Rev. 0
- Proposed revisions to DCA will be provided to TVA as part of the management consortium and parallel changes evaluated in a subsequent revision of the CPA
- mPower RAI responses will be reviewed by TVA via the Consortium
- Conversely, changes initiated by the CPA will be fed back to the mPower DCA

# Closely Coordinated Review Concept

- TVA understands that NRC DCA and CPA reviews have different findings, thus review will be separate but closely coordinated
  - Review of the CPA not a complete re-review of DCA
  - Benefits still gained as the NRC technical review of the PSAR will be information that is very similar if not identical to DCD content.
- Benefit of the closely coordinated review maximized by:
  - Maintaining consistency between DCA and CPA
  - Clearly delineating DCA vs. Clinch River-specific content

# Summary

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- A closely coordinated review maximizes efficiency of mPower DCA and Clinch River CPA reviews
- Procedures ensure that DCA serves as the starting point for the CPA
- Rev. 0s of two documents aligned
- Annotation identifies standard plant vs. site-specific content to facilitate review
- TVA involvement in Consortium and overlap in DCA and CPA authors ensure that two documents stay aligned
- Configuration management process facilitates consistency going forward



# Acknowledgement and Disclaimer

Acknowledgment: "This material is based upon work supported by the Department of Energy under Award Number DE-NE0000583."

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