DRAFT DOCUMENT FOR TELEPHONE CONFERENCE WITH

MONTICELLO PERSONNEL ON 6/20/08

1.0 INTRODUCTION

By letter dated March 31, 2008 (Agencywide Document Access and Management System (ADAMS) Accession No. ML081010189), supplemented by letters dated May 20, May 28, May 30, June 3, June 5, June 12, and June __ (Accession Nos. ML081430494, ML081490639, ML081550504, ML081550640, ML081570467, ML081640435, and ML_____), NMC applied for an EPU amendment which would raise MNGP's maximum thermal power from 1,775 megawatts to 1,870 megawatts.

Consistent with Section 50.90 of Title 10 of the *Code of Federal Regulations* (10 CFR), an amendment to the license must fully describe the changes requested. In addition, Section 50.34 of 10 CFR addresses the content of technical information required, and stipulates that the submittal address the design and operating characteristics, unusual or novel design features, and principal safety considerations. The Nuclear Regulatory Commission (NRC) staff reviewed the application, as supplemented, and determined that it is lacking in certain critical areas.

2.0 NRC STAFF CONCERNS REGARDING THE EPU APPLICATION, AS SUPPLEMENTED

2.1 Steam Dryer Structural Integrity

(1) Noise Removal

The NRC has previously accepted the noise removal approach using low main steam line flow data for removing non-physical tones from dryer loads in the Hope Creek EPU application. The NRC staff may accept some noise removal for the nonphysical load near 100 Hz in MNGP, provided the licensee presents a quantitative substantiation of the removal, using a similar approach accepted by the NRC staff in the Hope Creek application. [

PROPRIETARY INFORMATION WITHHELD

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and (iii) 9.5% bias error for the finite element mesh convergence established in the Hope Creek EPU application. As shown in the current submittal, the minimum alternate stress ratio is 1.79, which is significantly less than 2.0 (see Browns Ferry meeting summary dated June 5, 2008; ADAMS Accession No. ML081260712). When the above items are considered in the steam dryer analysis, the minimum alternating stress ratio (SR-a) is

expected to be further reduced. In summary, the NRC staff expects the EPU amendment application to reflect a complete and final stress analysis of the dryer considering previously identified bias errors and uncertainties in the acoustic circuit model (ACM) as well as justifiable noise removal addressed above.

(2) Possible Dryer Modification

The MNGP steam dryer is a first generation square hood type dryer, and some degree of conservatism should be applied due to limited validation of ACM. For those plants with no dryer instrumentation (i.e., dryer analysis based purely on main steam line strain gage data), the acceptability of the steam dryer performance relies on the extent of the available margins in the predicted stress. The NRC staff and Advisory Committee on Reactor Safeguards (ACRS) consider a minimum alternating stress ratio of 2.0 as the acceptance threshold due to the limited validation of the ACM code. As stated in (1) above, the minimum alternating stress ratio for the MNGP steam dryer is less than 2.0. Based on the revised stress analysis results as noted in (1) above, the licensee should re-compute the projected minimum alternating stress ratio at the proposed EPU conditions applying the appropriate bump-up factors (EPU/current licensed thermal power) established from scale model testing to capture acoustic resonance effects for projected EPU conditions. If the minimum alternating stress ratio is less than 2.0, the licensee should identify relevant structural modifications of the steam dryer to achieve a minimum alternating stress ratio of ≥ 2.0 at EPU conditions.

(3) Evaluation of Locations with Existing Cracks

As stated in NMC's May 30, 2008, supplement, there are existing indications noted at welds V390, V1090, V10270, at the dryer support bracket guide channel, and at the access hole cover plate in drain channel-F. Using the revised stress analysis results, the licensee should determine the alternating stresses that are present at all identified indications (including intra-granular stress corrosion cracks (IGSCC) at the Access Hole Cover Plate) in the MNGP steam dryer at current license thermal power, and evaluate the effect of EPU operation on the integrity of the dryer in the presence of the existing cracks. The licensee should implement either dryer design improvements and/or modifications, or perform analytical evaluations to confirm that the structural integrity of the dryer has not been compromised for EPU operation. The current dryer analysis in the application, as supplemented, does not address this topic, and hence is considered to be incomplete for detailed review.

2.2 Equipment Qualification

The licensee provided the supplemental information in the May 28, June 5, and June 12, 2008, letters. Based on its review of the supplemental information, the staff concludes that the original EPU application, as supplemented, is incomplete. During a June 17, 2008, teleconference the NRC staff requested the licensee to clarify its June 12, 2008, response. Specifically, the NRC staff requested the licensee to clarify the following information that was contained in that submittal:

> The note explains that the process for final resolution of the identified EPU impact may include:
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> - additional equipment-specific analysis to be documented in the equipment-specific qualification file, or
> - replacement or modification of a specific piece of equipment.
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> The process for final resolution of the identified EPU impacts (additional equipment-specific analysis, replacement or modification) is controlled in accordance with the MNGP EQ Program requirements.
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> A summary was included in the submittal. The summary concludes that analyses to determine the EPU impact are complete. It also states that the equipment-specific resolutions will be completed as controlled by the MNGP EQ Program requirements. Final resolution of identified impacts will be documented in the related equipment-specific qualification file prior to implementation of EPU in accordance with 10 CFR 50.49.
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> The licensee stated that with exception to a few components, the documentation portion of the equipment qualification process is all that remained. The NRC staff continued the discussion by requesting the licensee to identify the components that are still being evaluated for environmental qualification. In response to this request, the licensee stated that it is still in the process of performing an environmental qualification analysis on certain transmitters, flow switches, and motor control center buckets. The NRC staff expects EPU amendment applications to reflect a complete and final environmental qualification analysis. Based on the information provided by the licensee, the NRC staff does not have adequate assurance that the licensee has fully completed its environmental qualification analysis in accordance with 10 CFR 50.49, "Environmental Qualification of Electric Equipment Important to Safety for Nuclear Power Plants."

The NRC expects a complete and final environmental qualification analysis prior to commencing the detailed review process to avoid multiple rounds of requests for additional information and subsequent revisions and re-reviews. Based on the above findings, the NRC staff concludes that the MNGP EPU amendment application, as supplemented, has several notable deficiencies as set forth above.

2.3 Instrument Setpoint Methodology

2.3.1 Setpoint Calculation Methodology

> The licensee needs to provide documentation (including sample calculations) of the methodology used for establishing the limiting setpoint (or NSP) and the limiting

acceptable values for the As-Found and As-Left setpoints as measured in periodic surveillance testing as described below. Indicate the related Analytical Limits and other limiting design values (and the sources of these values) for each setpoint.

2.3.2 Safety Limit (SL)-Related Determination

Provide a statement as to whether or not the setpoint is a limiting safety system setting for a variable on which a safety limit (SL) has been placed as discussed in 10 CFR 50.36(c)(1)(ii)(A). Such setpoints are described as "SL-Related" in the discussions that follow. In accordance with 10 CFR 50.36(c)(1)(ii)(A), the following guidance is provided for identifying a list of functions to be included in the subset of limiting safety system settings (LSSSs) specified for variables on which SLs have been placed as defined in Standard Technical Specifications (STS) Sections 2.1.1, "Reactor Core SLs," and 2.1.2, "Reactor Coolant System Pressure SLs." This subset includes automatic protective devices in TSs for specified variables on which SLs have been placed that: (1) initiate a reactor trip; or (2) actuate safety systems. As such, these variables provide protection against violating reactor core safety limits, or reactor coolant system pressure boundary safety limits.

Examples of instrument functions that might have LSSSs included in this subset in accordance with the plant-specific licensing basis are pressurizer pressure reactor trip (pressurized water reactors), rod block monitor withdrawl blocks (boiling water reactors), feedwater and main turbine high water level trip (boiling water reactors), and end-of-cycle recirculation pump trip (boiling water reactors). For each setpoint, or related group of setpoints that the licensee determined not to be SL-related, explain the basis for this determination.

2.3.3 Setpoints Determined to be SL-Related

The NRC letter to the NEI SMTF dated September 7, 2005 (Accession No. ML052500004) describes Setpoint-Related TS (SRTS) that are acceptable to the NRC for instrument settings associated with SL-related setpoints. Specifically: Part "A" of the Enclosure to the letter provides LCO notes to be added to the TS, and Part "B" includes a check list of the information to be provided in the TS Bases related to the proposed TS changes.

a. Describe whether and how you plan to implement the SRTS suggested in the September 7 letter. If you do not plan to adopt the suggested SRTS, then explain how you will ensure compliance with 10 CFR 50.36 by addressing items 3b and 3c, below.

b. As-Found Setpoint evaluation: Describe how surveillance test results and associated TS limits are used to establish operability of the safety system. Show that this evaluation is consistent with the assumptions and results of the setpoint calculation methodology. Discuss the plant corrective action processes (including plant procedures) for restoring channels to operable status when channels are determined to be "inoperable" or "operable but degraded." If the criteria for determining operability of the instrument being tested are located in a document other than the TS (e.g. plant test procedure), explain how the requirements of 10 CFR 50.36 are met.

c. As-Left Setpoint control: Describe the controls employed to ensure that the instrument setpoint is, upon completion of surveillance testing, consistent with the assumptions of the associated analyses. If the controls are located in a document other than the TS (e.g. plant test procedure) explain how the requirements of 10 CFR 50.36 are met.

2.3.4 Setpoints Not Determined to be SL-related

Describe the measures to be taken to ensure that the associated instrument channel is capable of performing its specified safety functions in accordance with applicable design requirements and associated analyses. Include in your discussion information on the controls you employ to ensure that the as-left trip setting after completion of periodic surveillance is consistent with your setpoint methodology. Also, discuss the plant corrective action processes (including plant procedures) for restoring channels to operable status when channels are determined to be “inoperable” or “operable but degraded.” If the controls are located in a document other than the TS (e.g., plant test procedure), describe how it is ensured that the controls will be implemented.