



## Topical Report Completeness Determination

Topical Report Information		Review Information	
Report Number:	Oklo-2021-R19-NP, Rev. 3	Office/Division/ Branch:	NRR/DANU/UARL and NRR/DANU/UTB1 and NRR/DANU/UTB2
Title:	Maximum Credible Accident Methodology	Project Manager:	Jan Mazza
ADAMS Accession Number:	ML21278B096	Reviewers:	Tim Drzewiecki Michelle Hart Ian Jung
EPID:	L-2021-TOP-0016		
Docket Number:	05200049		
Review Type: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Compressed			
ADAMS Accession Numbers (Top row is for transmittal of this form)			
Package: ML	21307A108	E-mail: ML	21307A107
This Form: ML	21307A113		
Withholding Determination: ML	N/A	Fee Waiver: ML	N/A
Topical Reports for Review			
<input type="checkbox"/> The NRC staff has performed an acceptance review of the subject topical report. We have found that the material presented is sufficient to begin our review. The dates below are based on current resources, if they change the NRC staff will contact you.			
Information for Topical Reports That Are Found Acceptable for Review			
Issue Dates For Requests for Additional Information:		Issue Dates For Draft Safety Evaluation:	
Review hours total includes project management and contractor time:			
Topical Reports Not Acceptable for Review			
<input checked="" type="checkbox"/> Based on its review of the information provided, the NRC staff cannot find sufficient details in the submittal to allow the staff to evaluate the proposed topical report.			
<input type="checkbox"/> [Only for Use with Topical Reports in Standard Review Process] Although the NRC staff has found the current topical report is not sufficiently detailed to begin our review, the sponsor can supplement the submittal with additional information. The additional information should be submitted within 60 days the date of this form.			
Basis for Nonacceptance:			
Oklo-2021-R19-NP, Rev. 3, "Maximum Credible Accident Methodology," (hereafter referred to as MCA TR) did not provide technical information in sufficient detail to enable the NRC to commence its detailed technical review and make an efficient and timely assessment regarding the acceptability of the methodology.			
Additional Information Needed:			
The information needs were previously conveyed to Oklo in the original August 5, 2021, completeness determination as items II through IV (ADAMS Accession No. ML21201A094) and the staff held three public meetings with Oklo on September 1, 16, and 28, 2021 (meeting summaries available at ADAMS Accession Nos. ML21259A260, ML21266A428, and ML21293A329, respectively) to respond to Oklo's requests for clarification. Revision 3 of the MCA TR made some changes from Revision 2 but did not adequately address the information needs identified during the original completeness review, as described below. I. The revised MCA TR still does not delineate the steps needed to execute a structured, systematic approach to identify			



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hazards, initiating events, and event sequences. The MCA methodology does not prescribe the specific details of its implementation. It states that the NRC applicant is expected to justify and document its implementation in the NRC license application. Additionally, the MCA TR states that the use of none, all, or a combination of existing methods (e.g., failure modes and effects analysis, hazard and operability analysis, master logic diagrams) are acceptable under the methodology without providing instructions on acceptable combinations nor on necessary attributes if a TR user chooses not to use any of the existing methods. This defers the identification and justification of a systematic approach for identifying hazards, initiating events, and event sequences—a major driver in selecting an MCA—to the applicants that reference the topical report. This information is necessary in the TR because it provides confidence that all appropriate hazards, initiating events, and event sequences would be identified by an applicant using the MCA methodology. Without this information, the NRC staff would be unable to make a regulatory finding that the applicant would identify the appropriate hazards, initiating events, and event sequences.

II. The revised MCA TR still does not identify the techniques for providing margin to address uncertainties associated with the performance of new and novel safety features in identifying hazards, initiating events, and event sequences. The revised MCA TR includes a new section that emphasizes the use of an iterative approach for the analysis to ensure the uncertainty associated with new and novel design choices are appropriately considered in the selection of licensing basis events. However, this update does not describe how iteration captures uncertainty and defers justification of the approach to the applicant that references the TR. More detailed information is necessary to underpin appropriate performance assumptions by applicants. Without this information, the NRC staff would be unable to make a regulatory finding on the adequate performance of new and novel safety features.

III. The revised MCA TR still does not identify the necessary conditions and interfaces essential to the implementation of the methodology (e.g., hazard identification team composition, information needs, documentation requirements). Instead, the MCA TR relies on the end user to supply a quality assurance program that provides this direction. The revised TR defers justification for this essential element of the maximum credible accident approach to a different, unidentified topical report (e.g., a quality assurance program description). To-date, the NRC has not observed a quality assurance program description that describes the personnel qualifications, information needs, and documentation requirements essential to the identification of hazards, initiating events, and event sequences applicable to a nuclear plant. This information is necessary to provide assurance that the methodology can be implemented reliably and deferring it to a different topical report means that the NRC staff would be unable to make a regulatory finding on the consistent and appropriate implementation of the methodology by applicants.

### Approvals

Technical Branch Chief

Projects Branch Chief