



FEMA Guidance Update

Radiological Emergency Preparedness (REP) Program Manual Update

Robert Spence, South Section Chief,
Technological Hazards Branch, FEMA RIV



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Overview

- The FEMA REP Program Manual is a FEMA developed and maintained guidance document.
- The REP Program Manual serves as the principle source of guidance for the FEMA Radiological Emergency Preparedness Program.
- The RPM provides FEMA guidance that interprets the 16 planning standards and associated evaluation criteria in NUREG-0654/FEMA-REP-1, Rev. 2 by providing additional level of detail on what FEMA anticipates will be included in offsite radiological emergency plans and procedures.



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Overview

- Introduction to the FEMA REP Program
- REP Program Manual, Part I: The REP Program
- REP Program Manual, Part II: REP Program Planning Guidance
- REP Program Manual, Part III: REP Program Assessment Policies and Guidance
- REP Program Manual, Part IV: REP Program Administration
- REP Program Manual, Part V: REP Program Alert and Notification System Guidance



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Introduction

- Alignment with modern emergency management doctrine.
 - National preparedness is a shared responsibility of all levels of government, the private and nonprofit sectors, and individual citizens.
- Use of this Document
 - ORO's, FEMA, Federal supporting agencies, licensee ORO's.



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Part I: The REP Program

- A updated mission statement, specific to FEMA THD was developed.
- Clarifying updates were made to alternative approach and reasonable assurance to align their usage and definitions in NUREG-0654/FEMA-REP-1, Rev.2.
- The scope of the document was revised to reflect changes made to the assessment-related parts of the RPM.
- Updates were made to align with the January 2017 Version of the Environmental Protection Agency (EPA) Protective Action Guide (PAG) Manual (EPA-400/R-17/001).



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Part II: REP Program Planning Guidance

- **Two major subparts:**

- **Subpart B, Planning Standards**, is a one-page listing of the 16 planning standards from 44 CFR Part 350 and 10 CFR Part 50.47.
- **Subpart C, Planning Guidance**, lists the planning standards and associated NUREG-0654/FEMA-REP-1, Rev. 2 evaluation criteria. Subpart C also provides interpretation and application of the guidance, including the following:
 - A listing of NUREG-0654/FEMA-REP-1, Rev. 2 evaluation criteria related to each planning standard;
 - An explanation of each NUREG-0654/FEMA-REP-1, Rev. 2 evaluation criterion based on current guidance; and
 - Marks indicating the applicability of each NUREG-0654/FEMA-REP-1, Rev. 2 evaluation criterion to plans/procedures (i.e., licensee, state, local, or tribal).



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Part II: REP Program Planning Guidance

Planning Standard A - Assignment of Responsibility

- Details regarding Letter(s) of Agreement (LOAs) were moved to this section.
- This includes references to Emergency Response Support and Resource Agreements, Accident Assessment Agreements, Medical and Public Health Support Agreements, and all laboratory agreements.



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Part II: REP Program Planning Guidance

Planning Standard C - Emergency Response Support and Resources

- Evaluation criteria were expanded to include all resources that could be provided from a variety of sources and not just those provided by the Federal government.
- Provisions for supporting offsite resources responding to the nuclear power plant site were added.



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Part II: REP Program Planning Guidance

Planning Standard D - Emergency Classification System

- Provisions were added to assure appropriate guidance is used for developing emergency action levels, including an **annual** review between licensee and OROs.
- Process for reviewing the emergency action level (EAL)/emergency classification level (ECL) scheme on an annual basis is collaborative between OROs and licensees.
- ECL definitions were standardized with those used by NRC and industry (NEI 9901).
- Process for reviewing the EAL/ECL scheme on an annual basis is collaborative between OROs and licensees.



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Part II: REP Program Planning Guidance

Planning Standard E - Notification Methods and Procedures

- Incorporates **Supplement 4** to NUREG-0654/FEMA-REP-1, Rev. 2 guidance.
- Modernizes the verbiage to consider all different formats to alert and notify the public.
- There was a deliberate move to make this guidance more process-oriented to emphasize alert and notification methods, procedures, and capabilities instead of particular types of systems.



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Part II: REP Program Planning Guidance

Planning Standard F - Emergency Communications

- Edits were made to reflect modern concepts and terminology.
- In F.1 “*redundant means of communication*” replaces “*reliable primary and backup means of communications*”.
- Detailed information regarding emergency notification content was relocated here.



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Part II: REP Program Planning Guidance

Planning Standard G - Public Education and Information

- Concepts from **Supplement 3** of NUREG-0654/FEMA-REP-1, Rev. 1 were added to this section.
- Information is consistent with emergency response plans/procedures, and written clearly and concisely, in “*plain language*,” for easy comprehension among the general public.
- Introduces the use of joint information system (JIS) concepts for coordination and dissemination of information to the public and the media.



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Part II: REP Program Planning Guidance

Planning Standard H - Emergency Facilities and Equipment

- Total effective dose equivalent (TEDE) was changed to total effective dose (TED) where applicable, to align with the 2017 EPA PAG Manual.
- Planning for an alternate emergency operations center (EOC) for those locations where the primary EOC is located within the plume exposure pathway emergency planning zone (EPZ) was formalized.
- Clarified language to ensure radiological survey instruments are checked on a specific basis, relative to how often they are used.



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Part II: REP Program Planning Guidance

Planning Standard I - Accident Assessment (1 of 2)

- New guidance regarding methods for assessing contamination of drinking water for a nuclear power plant (NPP) located on or near bodies of water from which public drinking water is drawn was added in response to the U.S. Environmental Protection Agency (EPA) drinking water Protective Action Guides (PAGs).



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Part II: REP Program Planning Guidance

Planning Standard I - Accident Assessment (2 of 2)

- The revised guidance accounts for methods for assessing contamination of drinking water through *liquid release pathways or deposition of airborne materials release for nuclear power plant sites located on a body of water from which public drinking water is drawn.*
- This reflects new programmatic guidance created to address **drinking water protective action guides** (PAGs) released by the EPA in 2017.



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Part II: REP Program Planning Guidance

Planning Standard J - Protective Response (1 of 2)

- Concepts from **Supplement 3** of NUREG-0654/FEMA-REP-1, Rev. 1 have been added.
- **Relocation** plans and activities were moved from planning standard M to planning standard J as they are considered protective actions. Relocation planning concepts are now more thoroughly addressed.
- Guidance on **Precautionary Protective Actions** was added.



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Part II: REP Program Planning Guidance

Planning Standard J - Protective Response (2 of 2)

- The revised guidance adds the identification of and means to implement “precautionary protective actions.” FEMA added “relocation” concepts which are identified in the 1992 and 2017 EPA PAG manual as an intermediate phase protective action. While this change ultimately reflects current practice, it was also made to bring this guidance into alignment with the guidance of the EPA PAG manual.
 - a. **Precautionary Protective Actions [J.11.g / New Content]**
 - b. **“Relocation” (Intermediate Phase) [J.14.a-f / New Content]**



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Part II: REP Program Planning Guidance

Planning Standard K - Radiological Exposure Control (1 of 2)

- Guidance for the accounting of occupational dose limits is now included.
- Provisions were added to identify individuals who will authorize personnel to receive radiation doses in excess of the occupational dose limits.
- Considerations for dosimetry and potassium iodide (KI) for offsite emergency workers during a hostile action-based (HAB) incident, particularly when those emergency workers may be needed onsite, have been more explicitly described.



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Part II: REP Program Planning Guidance

Planning Standard K - Radiological Exposure Control (2 of 2)

- The revised guidance makes a distinction between authorization to exceed **occupational dose limits** (set forth in NRC regulations at 10 CFR 20 or in the Occupational Safety and Health Administration (OSHA) regulations at 29 CFR 1910.1096) versus dose limits exceeded in emergency situations (EPA PAGs).



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Part II: REP Program Planning Guidance

Planning Standard L - Medical and Public Health Support

- The handling of contaminated, injured emergency workers and members of the general public is more specifically addressed.
- Guidance now more specifically addresses contamination control during transport and decontamination of transport vehicles.



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Part II: REP Program Planning Guidance

Planning Standard M - Recovery, Reentry, and Post-Accident Operations (1 of 4)

- Guidance for **reoccupancy** was added to align with concepts introduced in the 2017 EPA PAG Manual.
- Information was added to more fully address **reentry**, **recovery**, and **return** planning.
- Transfer of responsibility between incident phases is now addressed.
- References to and discussion of the Price-Anderson Nuclear Industries Indemnity Act (Price-Anderson Act) were included.



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Part II: REP Program Planning Guidance

Planning Standard M - Recovery, Reentry, and Post-Accident Operations (2 of 4)

- New concepts are introduced to account for the evolution of recovery concepts that have occurred during the past 40 years. Changes made here were also a result of updates made to the PAGs released by EPA in 1992 and in 2017. The 2017 PAG manual added the provision “**reoccupancy**” (return of households and communities to relocation areas during the cleanup process, at radiation levels acceptable to the community) which is new to the program and the larger recovery community, outside of the REP Program.



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Part II: REP Program Planning Guidance

Planning Standard M - Recovery, Reentry, and Post-Accident Operations (3 of 4)

- Further, the EPA guidance has divided the original two areas of focus of **reentry** and **recovery** to include “**return**” (permanent resettlement in evacuation or relocation areas with no restrictions, based on acceptable environmental and public health conditions) and *redefined* “**reentry**” (workers or members of the public going into relocation or radiological contaminated areas on a temporary basis under controlled conditions).



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Part II: REP Program Planning Guidance

Planning Standard M - Recovery, Reentry, and Post-Accident Operations (4 of 4)

- And finally, provisions for identifying organizations for developing and implementing **cleanup** operations offsite and provisions for developing and modifying **sampling plans** were also added. These revisions reflect current practice.



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Part II: REP Program Planning Guidance

Planning Standard N – Exercises and Drills

- Guidance from **Supplement 4** of NUREG-0654/FEMA-REP-1, Rev. 1 was added to this section.
- Required biennial exercise scenario elements currently found in NRC regulations have been added.
- Guidance was added to address various types of drills, including Laboratory, Ingestion Pathway and Post-Plume Phase drills.
- Guidance for Medical Services drills have been separated into onsite and offsite drills.
- Clarification was provided for Environmental Monitoring drills.



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Part II: REP Program Planning Guidance

Planning Standard O - Radiological Emergency Response Training

- The overly specific guidance regarding training for specific positions for those that participate in the REP Program was generalized to allow for more flexibility, though this should not be considered a relaxation of the requirements.



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Part II: REP Program Planning Guidance

Planning Standard P - Responsibility for the Planning Effort: Development, Periodic Review, and Distribution of Emergency Plans

- Specific guidance was added to address the administrative process for maintaining plans and recording changes.



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Part II: REP Program Planning Guidance

Changes By The Numbers (ORO Only)

| Rev. 1 | | | | | | | | | | | | | | | | |
|--------|----|----|---|----|----|----|----|----|----|----|----|---|----|----|----|--------|
| PS | A | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Totals |
| EC | 9 | 8 | 2 | 5 | 8 | 7 | 6 | 5 | 19 | 5 | 3 | 3 | 11 | 12 | 9 | 112 |
| MTI | 31 | 19 | 3 | 26 | 16 | 29 | 18 | 21 | 66 | 32 | 14 | 9 | 24 | 41 | 16 | 365 |

| Rev. 2 | | | | | | | | | | | | | | | | |
|--------|----|----|---|----|---|----|----|----|----|----|----|----|----|---|----|--------|
| PS | A | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Totals |
| EC | 8 | 8 | 2 | 6 | 6 | 6 | 7 | 7 | 26 | 5 | 3 | 7 | 19 | 1 | 9 | 120 |
| MTI | 21 | 24 | 4 | 30 | 9 | 22 | 19 | 28 | 89 | 30 | 11 | 24 | 30 | 8 | 19 | 368 |



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Part III: Assessment Policies and Guidance

- Saw the most changes and continued REPP's alignment with the National Preparedness System (NPS).
- A new assessment strategy was developed that includes objectives, capability targets, and core capabilities. Planning and preparedness are assessed over the biennial assessment period, which generally coincides with the 2-year exercise cycle.

“This is not new to FEMA RIV, we started using core capabilities, capability targets, and critical tasks in 2012 forward”



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Part III: Assessment Policies and Guidance

- **Two major subparts:**

- **Subpart B, REP Assessment Policies and Process**, identifies the unique regulatory requirements of the REP Program that affect the scheduling, design and development, evaluation, and improvement planning associated with the assessment activities. This subpart also explains the process for requesting and receiving REP assessment activity credit..
- **Subpart C, REP Objectives and Capability Targets**, describes the common metrics used to evaluate a REP Program assessment activity during the biennial assessment period in terms of objectives, capability targets, and core capabilities. The objectives/capability targets are derived from the planning standards of 44 CFR 350, support the evaluation criteria from NUREG-0654/FEMA-REP-1, Rev. 2, and are used as the baseline for assessing ORO preparedness in terms of core



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Part III: Assessment Policies and Guidance

■ Goals

- Assess overall radiological emergency preparedness over a two-year period utilizing REP-specific objectives/capability targets.
- Maintain integrity of the program.
- Provide flexibility in evaluation opportunities.
- Assessments utilizing common terms.
- Create a broader picture of preparedness for reasonable assurance validation.



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Part III: Assessment Policies and Guidance

- **Background**

- Derived from planning standards of 44 CFR 350.
- Absorbs demonstration criteria.
- Objectives and targets are core capability neutral.
- Assess REP activities throughout biennial assessment period.
- Provides for assessment by core capabilities.
- OROs determine core capabilities to be assessed.



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Part III: Assessment Policies and Guidance

- There are five overarching objectives:
 - **Objective 1:** Emergency Operations Management,
 - **Objective 2:** Exposure Control,
 - **Objective 3:** Alert and Notification,
 - **Objective 4:** Detect, Measure, Sample, Analyze, and Assess
 - **Objective 5:** Operate



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Part III: Assessment Policies and Guidance

▪ **Example of New Format for Evaluation**

Objective 1: Emergency Operations Management

Capability Target 1.2 Direction and Control: Individuals in leadership roles provide direction and control to the portion of the overall response effort for which they are responsible.

Critical Task: Support protective action decision-making

Points of Review:

- Who, by title and position, was in charge?
- Who was authorized to make any protective action decisions (PADs) prior to an official protective action recommendation (PAR) from the licensee?
- Did decision makers obtain input from their support staff?



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Part III: Assessment Policies and Guidance

- **Objective 1: Emergency Operations Management**

- Capability Target 1.1 Mobilization
- Capability Target 1.2 Direction and Control
- Capability Target 1.3 Protective Action Recommendations
- Capability Target 1.4 Protective Action Decisions for the Plume Phase
- Capability Target 1.5 Protective Action Implementation for the Plume Phase
- Capability Target 1.6 Protective Action Decision for the Post Plume Phase
- Capability Target 1.7 Protective Action Implementation for the Post Plume Phase



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Part III: Assessment Policies and Guidance

- **Objective 2: Exposure Control**

- Capability Target 2.1 Emergency Worker Exposure Control Decision-Making Process
- Capability Target 2.2 Emergency Worker Exposure Control Management



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- **Objective 3: Alert and Notification**

- Capability Target 3.1 Communications
- Capability Target 3.2 Alert and Notification of the Public
- Capability Target 3.3 Emergency Information and Instructions for the Public and News Media



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Part III: Assessment Policies and Guidance

- **Objective 4: Detect, Measure, Sample, Analyze, and Assess**
 - Capability Target 4.1 Field Monitoring Teams Management
 - Capability Target 4.2 Plume Phase Measurements and Sampling
 - Capability Target 4.3 Post-Plume Phase Measurements and Sampling
 - Capability Target 4.4 Laboratory Operations
 - Capability Target 4.5 Plume Phase Analysis and Dose Assessment
 - Capability Target 4.6 Post-Plume Phase Sampling Plan Development and Analysis



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Part III: Assessment Policies and Guidance

▪ **Objective 5: Operate**

- Capability Target 5.1 Monitoring, Decontamination, Sheltering, and Registration of Evacuees
- Capability Target 5.2 Monitoring and Decontamination of Emergency Workers, Equipment, and Vehicles
- Capability Target 5.3 Transportation and Treatment of Contaminated, Injured Individuals
- Capability Target 5.4 Traffic and Access Control



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Part III: Assessment Policies and Guidance

- **Work Plan**

- Living document developed by FEMA with ORO input.
- Maps and tracks all assessment activities for biennial assessment period.
- Identifies opportunities for assessment of alternative REP demonstrations.
- Assigns objectives/capability targets for each activity.



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Part III: Assessment Policies and Guidance

- **After-Action Report**

- The After Action Report (AAR) will still be used for a drill or exercise evaluation.

- **Evaluation Report**

- Developed by FEMA with ORO Input.
- Evaluations of individual assessment activities by objectives/capability targets.
- Includes: plan reviews, staff assistance visits, annual letter of certification, credit opportunities for real activation, alternative REP demonstrations credit, etc.
- Findings from Evaluation Reports inform the Biennial Preparedness Report.



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Part III: Assessment Policies and Guidance

- **Biennial Preparedness Report**

- Developed by FEMA with ORO input.
- Captures findings from all evaluation reports.
- Summary of assessment activities by core capabilities.
- Constitutes reasonable assurance validation for entire biennial assessment period.
- Helps to identify program-wide trends, best practices, areas for improvement.



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Part IV: Program Administration

- The intent of this part of the RPM is to provide general guidance on the FEMA REP Program administrative policies and procedures. Examples provided in Part IV are meant to show how a particular task may be accomplished, but are not intended to mandate a specific way of accomplishing tasks.
- Many sections throughout this Part were updated to align with current guidance, particularly NUREG-0654/FEMA-REP-1, Rev. 2, the 2017 EPA PAG Manual, and the FEMA Tribal Policy.



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Part IV: Program Administration

- The REP Exercise Process Milestones and Frequencies section was added to provide quick reference to the recommended timeline for completing exercise development, conduct, evaluation, and reporting activities as well as a breakdown of the various activities that need to occur within an 8-year exercise cycle.
- The Annual Letter of Certification, Plan Review, and Public Information Review Guide guidance remains in Part IV, however the checklists associated with these processes have been updated to align with the objectives/capability targets from the new assessment strategy and can now be found in the REPP RPM Implementation Community within the Preparedness Toolkit (PrepToolkit).



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Part IV: Program Administration

- A . Approval Process for Alternative Approaches
- B. Emergency Planning Zone Boundary Changes
- C. Credentialing Framework
- D. REP Exercise Process Milestones and Frequencies
- E. Use of State, Local, and Tribal Personnel as REP Exercise Evaluators
- F. Tribal Policies and Procedures
- G. Staff Assistance Visits



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Part IV: Program Administration

- H. Evacuation Time Estimates
- I. Potassium Iodide for the Public
- J. Conducting Plan Reviews
- K. Conducting Scenario Reviews
- L. Annual Letter of Certification
- M. Public Information Review Guide and Process
- N. Preliminary Capabilities Assessment and Disaster-Initiated Review



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Part V: REP ANS Guidance

- Guidance was modernized to accommodate new ANS technologies.
- A graphic was added that depicts the review and approval process for submitted ANS evaluation reports.
- FEMA, licensee, and ORO roles and responsibilities are more explicitly defined.
- There is new *ANS Evaluation Report Guidance* that provides direction on completing the various sections of the report. The *ANS Evaluation Report* template can be found in the REP Policy and Doctrine Community within the PrepToolkit.



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Outreach and Implementation

- The 2019 version of the RPM replaces the 2016 version of the RPM.
- FEMA RIV will solicit input our stakeholders on specific dates and time periods for implementation.
- The RPM remains a living, non-binding guidance document, and FEMA welcomes user feedback throughout the ongoing revision and update process.
- REP RPM Implementation Materials will be made available through the PrepToolkit.



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A questions & answer
period will follow with a
panel discussion
following the break.



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Contact

- Randy Hecht
 - Randall.Hecht@fema.dhs.gov
 - Cell: (404) 293-5556
- Robert Spence
 - Robert.Spence@fema.dhs.gov
 - Cell: 404-803-8266



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