**White Paper: Challenges, Recommendations, and Best Practices for Department of Energy (DOE) PM-30 Compliance Reviews**

**Introduction** The Department of Energy (DOE) Office of Project Management (PM)-30 Compliance Reviews, guided by the EIA-748 and the DOE PM-30's Earned Value Management System (EVMS) Compliance Review Standard Operating Procedure (ECRSOP) Appendix A Compliance Assessment Governance (CAG) 2.0, are critical for ensuring compliance and effective project management. While there are challenges in these reviews, there are also notable best practices that enhance their effectiveness. This paper consolidates key challenges, provides recommendations, and highlights areas where the DOE PM-30 Compliance Reviews excel.

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**1. Overly Subjective Reviews**

**Challenges:**

- Contractors are cited for noncompliance with CAG even when aligned with approved EVMS Description (EVMSD) document.

**Recommendations:**

- PM-30 review/approval of the EVMSD earlier in the review process

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**2. Metrics Analysis and Its Overemphasis**

**Challenges:**

- Excessive reliance on metrics without contextual evaluation leads to non-value-added findings. Example: To Complete Performance Index(TCPI)/Cost Performance Index (CPI) deviations often pose a high percentage of trips. However, the contractor addresses this deviation with solid VAR explanations. Reference Appendix A: Audit Metrics vs. Data Integrity and Quality Checks (DIQs).
- Corrective Action Requests (CAR)/Discrepancy Reports (DR) are issued based solely on data analysis, sometimes without material impact on decision-making. Example: project near critical decision (CD)-4 cited for lack of a product-oriented work breakdown structure (WBS). At this stage, it is too late to revise the WBS and not value-added at this point in the project.
- Metric thresholds in the Metric Spec may generate unnecessary work.

**Recommendations:**

- Use metrics analysis to inform compliance decisions rather than dictating them.
- Limit CARs to findings that demonstrate significant impacts on project decision-making.

- Review metric thresholds to ensure they generate value and adjust overly conservative thresholds. PM-30/Energy Facility Contractors Group (EFCOG) establish a working group to discuss metric thresholds.

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**3. Data Call Challenges**

**Challenges:**

- Overly extensive data requirements, including unnecessary PM-MAX/PM-Connect uploads and data calls.
- Duplication of data already submitted to Project Assessment and Reporting System (PARS).

**Recommendations:**

- Restrict data calls to only those datasets actively used by project teams.
- Eliminate redundant or unused data submissions (e.g., Integrated Program Management Reports (IPMR) not required by local teams).
- Rely more on data submitted to PARS for review rather than duplicating data requests.

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**4. Root-Cause Analysis and Corrective Actions**

**Challenges:**

- Excessive expectations for root-cause analysis on all CARs and DRs, including minor procedural additions.
- More time is spent on analysis than on resolving issues.
- CARs/DRs remain open despite meeting pre-established criteria.

**Recommendations:**

- Limit root-cause analysis to significant issues where value can be added.
- Streamline PM-30 review process to avoid unnecessary time and resource expenditure on minor findings.
- Standardize a Corrective Action Management Plan (CAMP) template and ensure CARs/DRs are closed once criteria are met.

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**5. Reliance on Automated Tools Without Validation**

**Challenges:**

- Compliance decisions are overly reliant on tools like Empower without verification.

- False flags from automated tools lead to unnecessary time spent disproving issues.

**Recommendations:**

- Verify disconnects flagged by tools against source systems before issuing CARs/DRs.
- Accept documented self-disclosures from contractors to address above-threshold metrics when appropriate.

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**6. Lack of Communication and Coordination**

**Challenges:**

- Lack of pre-review communication and alignment with DOE and NNSA: Insufficient communication or formal direction from DOE and NNSA can lead to misalignment with project execution expectations.

**Recommendations:**

- PM-30's data call for reviews should include a request from the contractor to disclose and provide documentation that addresses conflicting EVMS direction the contractor received from DOE PM-30 and other DOE offices.

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**7. Subjective and Adversarial Approaches**

**Challenges:**

- Reviews perceived as adversarial or with predetermined conclusions diminish contractor engagement and collaboration.
- Threatening the loss or denial of EVMS certification is not conducive to collaborative resolution of issues.
- The Environmental Factors review process is too subjective for an outside team, and the distinct differences in scoring between PM and local teams demonstrate that outside reviewers may be perceived as pessimistic or less aware of the issues facing the project.

**Recommendations:**

- Foster a collaborative review environment focused on maintaining and improving EVMS certifications.
- DOE should work with the contractor during the review to discuss the material issues as they arise, collaboratively, to gain consensus (or not) during the process.
- Establish charters defining roles, responsibilities, objectives, and timelines to avoid misunderstandings.

- Ensure factual accuracy review cycle has adequate time to address contractor feedback. Consider limiting the factual accuracy review to one cycle.

- Re-examine PM-30 involvement in the IP2M Environmental Factors review. Recommend removal of PM-30 as one of the four (4) evaluation groups. Consider allowing the contractors to lead their own reviews (including scoring and SWOT analysis) with PM-30 facilitation.

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**8. Contradictory Expectations and Moving Goalposts**

**Challenges:**

- PM-30 review team members have inconsistent expectations for compliance.
- Unstable metrics, improperly performed calculations/analysis, and shifting guidance led to inefficiencies and frustration.

**Recommendations:**

- Set clear, consistent ground rules and adhere to them during reviews.
- Conduct internal validation of assessment results to ensure accuracy before sharing with contractors.
- Review and re-vamp the audit metrics based on errors, inconsistencies and duplicities identified to-date in order to establish a streamlined, technically accurate, less conservative set that is the starting point for identifying material and systemic issues.

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**9. CAM Interviews and Training**

**Challenges:**

- Local DOE personnel lack of EVMS preparation and training lead to review inefficiencies.
- Compliance review findings that impact project set-up (WBS structure, initial Integrated Master Schedule (IMS) implementation strategy, etc.) are not identified at External Independent Reviews (EIR) due to lack of EVMS prep/training of PM-20 staff.

**Recommendations:**

- Improve CAM interview processes to ensure meaningful discussions. Clarification or follow-up CAM interviews could help reduce findings.
- Provide comprehensive training to DOE on ECRSOP/CAG, audit metrics and review procedures.
- Need for EVMS compliance concerns to be addressed as part of the EIR.

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**10. Documentation and Reporting**

**Challenges:**

- Review findings (documented CARs/DRs) are often unclear and lack impact. Duplicative findings across attributes (ex: untimely WADs in Process Area C and G) can result in multiple CARs/DRs.
- Excessive focus on documentation over actionable insights. For example, when assessing variance analysis reports (VAR), all emphasis is placed on the VAR Quality Checklist. At times, too much attention is placed on the root-cause analysis when a simple explanation could be sufficient. Not enough attention is given to observations related to team implementation.

**Recommendations:**

- Streamline review finding documentation to be concise, impactful, and actionable. If a discrepancy is found it should be documented in the area of its root cause. This would prevent the same issue from being documented multiple times and shorten the corrective action process. By isolating the issues to the main cause, the corrective actions later identified will focus on the areas needing the most attention. This will reduce documentation, reduce time in creating the corrective plan, and lead to an overall more efficient process that fixes the specific issue causing system degradation.
- Focus on material issues that enhance decision-making and project outcomes.

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**11. Timing and Relevance of Reviews**

**Challenges:**

- Conducting reviews during major replanning phases generates false findings. While the team acknowledges the intent to address issues early, the early starts on reviews are resulting in review pauses/false starts leading to significant re-work and a perception that the Contractor was not ready for the review.
- Timelines for developing and closing CAMPs are often unrealistic.
- Issues are not corrected in a timely manner.

**Recommendations:**

- Avoid scheduling reviews during major project replanning phases. The review schedule needs to be in tune with status of the project.
- Collaborate with contractors to establish realistic timelines for CAMP development and closure. Increase assistance from PM-30 in CAMP development and closure process.
- Limit review of CAMPs to a single iteration. Close findings immediately when all pre-established CAMP actions are completed.

**12. Best Practices in PM-30 Compliance Reviews**

**Strengths:**

- **Integration of External Compliance Review Team Members:** Including individuals outside PM-30 provides a broader spectrum of skills and perspectives. Ensure a balanced approach by incorporating a mix of directly contracted support and cooperative support from other Management and Operations (M&O) Contractors or Energy Facility Contractors Group (EFCOG) members from different sites.
- **Effective Use of DIQs:** DIQs are effective as a compliance tool in identifying anomalies within EVMS data.
- **Real-Time Factual Accuracy Reviews:** Allowing contractors to discuss and defend findings real-time (virtual or in-person) ensures fairness and clarity. Reference Appendix B: Factual Accuracy Reviews
- **Team-Based Interviews:** Moving away from traditional one-on-one CAM interviews enables more comprehensive and collaborative discussions.
- **Frequent Dialogue:** PM-30 is approachable and open to discussing issues, fostering a collaborative atmosphere. Frequent and meaningful communication between PM-30 and contractors throughout project execution helps identify areas of improvement and resolve issues before formal reviews.
- **Established Liaison:** PM-30 Maturity Review Chief acts as single point of contact, promoting consistency, problem-solving, and effective communication.
- **Self-Surveillance Encouraged:** Contractors are encouraged to perform monthly self-surveillance based on critical tests, with formal annual surveillance including CAM interviews and environmental assessments. PM-30 recognizes and rewards the benefit of contractor self-identification.
- **PM-30 Facilitates Info Exchange:** PM-30 offers insight into other sites with similar scenarios or that have overcome the same issues.
- **IP2M EVMS Maturity:** objective tool to help measure and assess if EVMS is meeting the intent of the attributes. **IP2M EVMS Environmental**: highlights team compliance intent, brings management as well as all the team to the table, stimulates good conversation and highlights challenges associated with implementing environmental changes.

**Recommendations for Best Practices:**

- Use DIQs and audit test metrics as starting points for discussions rather than sole basis for findings.
- PM-30 develop CAMP content criteria and collaboratively negotiate a reasonable timeline for implementation to streamline the finding resolution process.

**Conclusion**

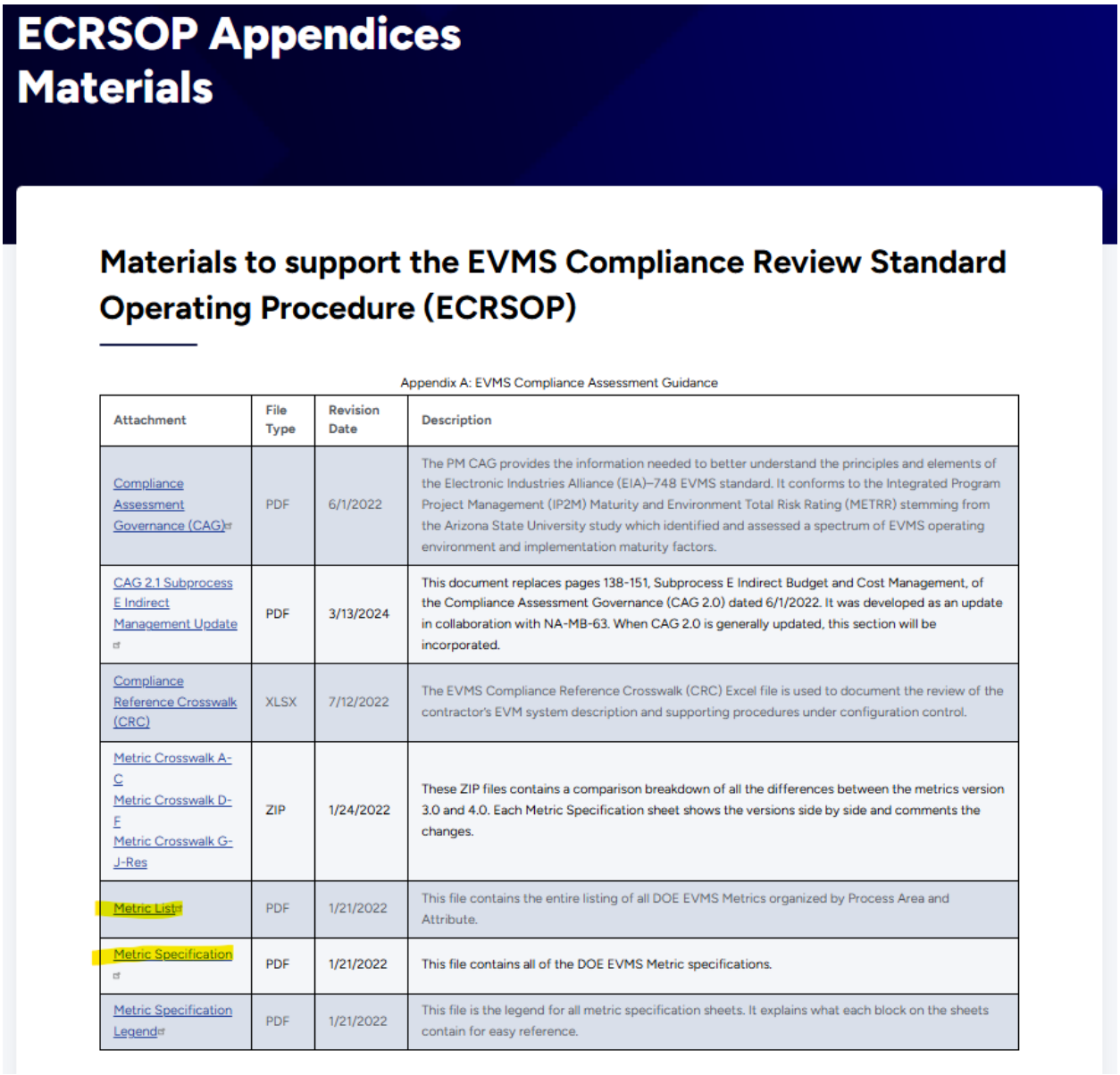
The Compliance Review EFCOG Working Group appreciates the opportunity to share their thoughts with PM-30 on Compliance Reviews in this White Paper. The Group also appreciates PM-30's demonstrated continued improvements in the compliance review process incorporating lessons learned from previous reviews. Three themes stood out in the Working Group discussions as recommended priorities in the improvement process: (1) EVMS training/education/communication to local DOE staff in order to minimize EVMS implementation conflicting direction, (2) Revised audit metrics incorporating previously identified inconsistencies, and (3) Prevention of duplicative documentation for discrepancies.

By addressing the challenges outlined and building upon the strengths of the PM-30 Compliance Reviews, DOE and the contractor can jointly ensure a balanced, collaborative, and effective review process. Leveraging best practices, such as integrating diverse perspectives and fostering open dialogue will enhance outcomes and strengthen project management practices across the board.

**Appendix A: Audit Metrics vs. Data Integrity and Quality Checks (DIQs) Clarification**

References to Audit Metrics or Metrics in this document are referring to the ECRSOP DOE EVMS Metrics contained in the ERCROP Appendices

ECRSOP Appendices Materials | Department of Energy



ECRSOP Appendices Materials

Materials to support the EVMS Compliance Review Standard Operating Procedure (ECRSOP)

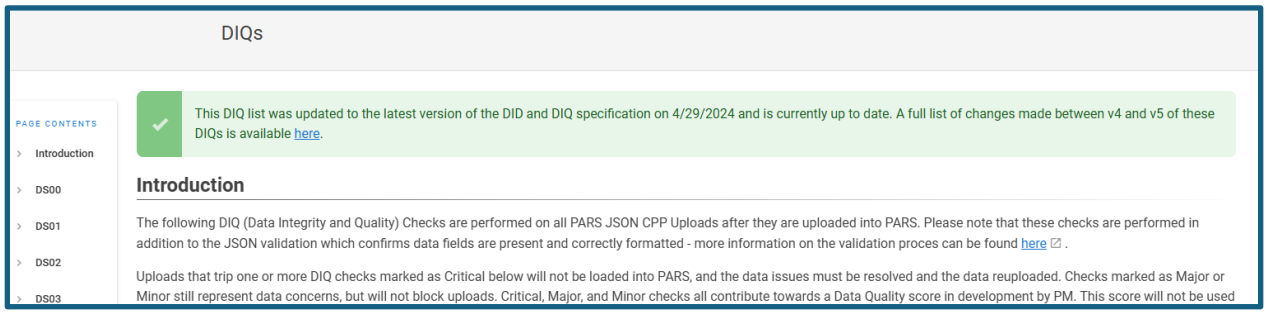
Appendix A: EVMS Compliance Assessment Guidance

| Attachment | File Type | Revision Date | Description |
|---|---|---|---|
| Compliance Assessment Governance (CAG) | PDF | 6/1/2022 | The PM CAG provides the information needed to better understand the principles and elements of the Electronic Industries Alliance (EIA)–748 EVMS standard. It conforms to the Integrated Program Project Management (IP2M) Maturity and Environment Total Risk Rating (METRR) stemming from the Arizona State University study which identified and assessed a spectrum of EVMS operating environment and implementation maturity factors. |
| CAG 2.1 Subprocess E Indirect Management Update | PDF | 3/13/2024 | This document replaces pages 138-151, Subprocess E Indirect Budget and Cost Management, of the Compliance Assessment Governance (CAG 2.0) dated 6/1/2022. It was developed as an update in collaboration with NA-MB-63. When CAG 2.0 is generally updated, this section will be incorporated. |
| Compliance Reference Crosswalk (CRC) | XLSX | 7/12/2022 | The EVMS Compliance Reference Crosswalk (CRC) Excel file is used to document the review of the contractor's EVM system description and supporting procedures under configuration control. |
| Metric Crosswalk A-C<br>Metric Crosswalk D-F<br>Metric Crosswalk G-J-Res | ZIP | 1/24/2022 | These ZIP files contains a comparison breakdown of all the differences between the metrics version 3.0 and 4.0. Each Metric Specification sheet shows the versions side by side and comments the changes. |
| Metric List | PDF | 1/21/2022 | This file contains the entire listing of all DOE EVMS Metrics organized by Process Area and Attribute. |
| Metric Specification | PDF | 1/21/2022 | This file contains all of the DOE EVMS Metric specifications. |
| Metric Specification Legend | PDF | 1/21/2022 | This file is the legend for all metric specification sheets. It explains what each block on the sheets contain for easy reference. |

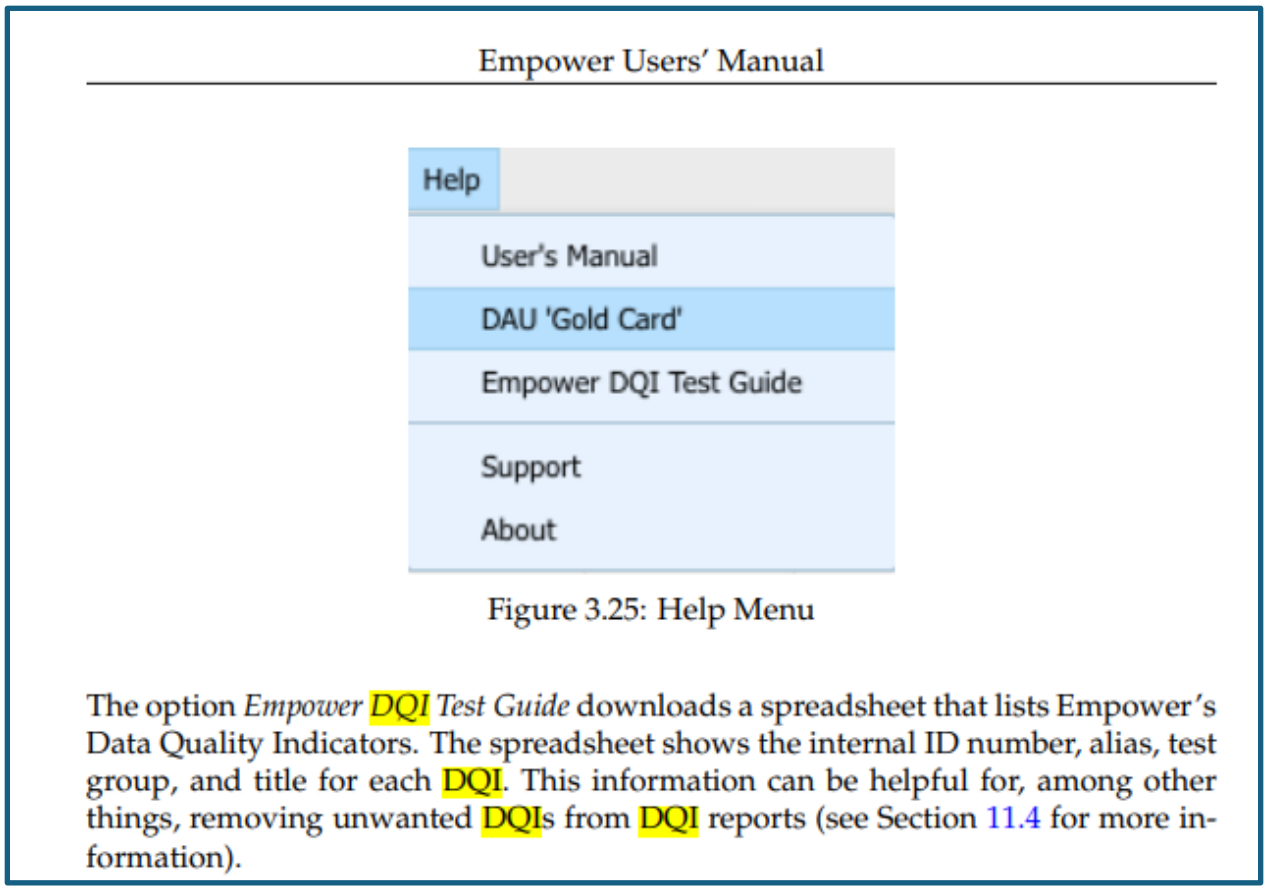
Appendix 1

References to **Data Integrity and Quality Checks or DIQs** are referring to the quality checks performed by PARS as part of the monthly upload process.

[DIQs | PARS Wiki]




While this document does not reference **Data Quality Indicators (DQIs)**, it is important to note that Encore Analytics' Empower software has various DQI testing and reporting capabilities which serves as a tool for improving the quality of EVMS data (example below).



**Appendix B: Factual Accuracy Review**

The purpose of the Factual Accuracy review check is to ensure the review team assessed the correct data. Here is an example where factual accuracy would be vitally important. A review team reviewed an IMS and was initially told that all the network logic was stored in custom user field 1. During the course of the review, the team found no logic contained in custom user field 1, so a deficiency report citing a lack of network logic in the IMS was drafted. During the factual accuracy review all draft findings are sent to the contractor for review to ensure the data behind the discrepancies is accurate. It was discovered that the incorrect field was given and used for logic, the expectation is the appropriate field (predecessor/successor fields) is given along with an IMS showing those fields containing the logic to the review team for adjudication. In this example the data used for the finding was not correct, and the draft issue would be removed.

In other examples where the data behind the issue is correct, factual accuracy is not intended for a discussion of disagreements on whether it is a compliance issue or not. Factual accuracy reviews are not used to argue the materiality of the finding.

Factual accuracy reviews are intended to ensure that the government reviewed the correct data for the finding described. As contractors review the findings, they are encouraged to challenge a factual statement for accuracy but not encouraged to challenge PM-30's interpretation of the factual data.