## **Task 3 – T2WG Discussion**

***T1WG Report, Appendix A at 13:*** *The Accelerated Replacement includes three sub-types,* ***all of which are subject to proof of both program influence and the long-term viability of the existing equipment as demonstrated by the preponderance of evidence****. The evidence supporting the long-term viability must meet one of three criteria (depending on the existing equipment status) as follows:*

* ***Repair-eligible*** *– The existing equipment needs a major repair to return the equipment to fully serving the load and that repair cost is less than 50% of the full measure cost (FMC).*
* ***Repair-indefinitely*** *– The existing equipment exceeds its EUL and has a history of repair and maintenance and could continue to be maintained to serve the load for the RUL of the existing equipment.*
* ***Early-retirement*** *– The existing equipment is fully operational and meets new and existing load service requirements and could continue to do so for the RUL of the existing equipment.*

*Existing conditions and code define the first and second baselines, respectively, for all three sub-types, where the repaired state is considered existing conditions for the repaired measure.*

**OP 16**. We permit the Program Administrators to apply an accelerated replacement baseline treatment to equipment that qualifies as repair eligible or repair indefinitely where the equipment is older than its predetermined effective useful life.

**Finding #18**. We do not have a process or **evidence requirements for how equipment could be qualified as repair indefinitely**. The working group also did not assign any measures to this category.

**Develop qualification standards and documentation requirements to identify repair eligible and repair indefinitely measure types.**

**[Q1A] What are some examples of measures or projects that would/should qualify for this category?**

**[Q1B] How is this repair-eligible/indefinitely different from a normal replacement for which the customer standard practice (CSP) is repair rather than replace?**

## **Qualification Standards**

T2WG Statement – **If the equipment meets the Repair-Indefinitely criteria, then the equipment viability component of POE is satisfied. Repair-indefinitely must still satisfy the program influence component of POE (defined in Task 2).**

**[Q2] PROGRAM INFLUENCE – Are the qualification standards and documentation requirements for defined in Task 2 for program influence appropriate and sufficient for repair-eligible/indefinitely, or do we need separate qualification/documentation requirements on program influence?**

**[Q3] EQUPIMENT VIABILITY – What are the qualification standards on equipment viability for repair-eligible/indefinitely? What does the evidence need to prove or demonstrate?**

### Project level parameters or information of interest (for qualification as Repair-Eligible/Indefinitely)

|  |  |  |
| --- | --- | --- |
|  | **Proof Point** | **Comment / Evidence**  |
| ***Proof Points for Task 2 POE on Equipment Viability*** |
| ***For*** | *Equipment serves its current load* | Still valid? |
| *The load served is expected to remain the same through the RUL period.* | Still valid? |
| *Equipment age is less than its expected useful life* | Not required for repair-eligible/indefinitely |
| ***Against*** | *Equipment is not operating or is poorly operating.* | This is the premise for repair-eligible/indefinitely |
| *The load served is changing within the RUL period* | Still valid? |
| ***Proof Points for Task 3 POE on Equipment/Repair Viability*** |
| Age | Existing equipment exceeds its EUL |  |
| Condition | Existing equipment is operating and meeting Customer requirements |  |
| Condition | Existing equipment not in imminent failure mode (as verified at pre-inspection or per program rules) |  |
| Condition | Existing equipment needs a major repair to return the equipment to fully serving the load and that  |  |
| Condition | Existing equipment is not operating (not meeting Customer requirements) | *Not eligible?* |
| Can be repaired | Existing equipment can be repaired to meet Customer requirements; Estimated cost of repair is available. |  |
| Can be repaired | Existing equipment could continue to be maintained to serve the load for its RUL |  |
| Can be repaired | Existing equipment can be repaired to extend life for “foreseeable future” |  |
| Would be (Cost) | Repair cost is less than 50% of the full measure cost (FMC). | *Resolution: “… we do not adopt the use of repair cost in determining equipment eligibility-based definitions.”* |
| Would be (Cost) | The expected cost of equipment replacement far exceed the cost of regular and periodic equipment maintenance to provide a constant level of service (COST) | *Resolution: “… we do not adopt the use of repair cost in determining equipment eligibility-based definitions.”* |
| Design | The equipment/process was designed such that regular and periodic maintenance is sufficient to maintain a constant level of service (DESIGN) | *In practice, difficult to know or find someone who knows the design intent of systems, especially old systems.* |
| Design | The existing system was the ISP design at the time of development (BEST AVAILABLE AT DEVELOPMENT) | *In practice, difficult to know past design strategies* |
| Would be (pattern)  | Existing equipment has a history of repair and maintenance |  |
| Would be (intent) | the CPUC maximum EUL of 20 years does not correctly describe the full equipment useful life of the equipment as the customer intends to operate it (LIFECYCLE) |  |
| Would be (knowledge) | Retrofit/Replacement identified in audit* Internal Customer audit
* 3P Audit/Project Feasibility Study (PFS)
* Other Program audit/assessment
 |  |
| Would be (pattern) | The facility replacing the existing system requires an extensive capital approval process that restricts the replacement of functioning equipment (BURDENSOME INTERNAL APPROVAL PROCESS) |  |

## **Documentation Requirements**

Staff provided the following “important considerations at portfolio/program/activity level (supported by current/recent evidence):”

* Standard practice for repair versus replace in the market segment of interest; Functionality and feasibility of repairs.
* Non-energy considerations that impact the customer decision process (as much or more than energy cost considerations)
* Typical repair versus replace payback from the customer perspective

Staff/Consultants clarified that, as with other AR projects, the level of rigor should depend on the incentive (or tier) level:

* **Program submission** requirement may always be high while project level criteria may vary greatly by incentive dollar amount. Program submissions must fully describe project eligibility criteria with examples, process to be followed to establish eligibility, and documentation archiving requirements.
* **Project criteria** should always include a consideration of the [evidence requirements]. However, lower incentive levels, as with PoE tiers, should have a much lower level – and in some cases very limited – of requirements.

**[Q4] What types of evidence/data we use to prove the points developed above (Q3), and what is the relative accessibility or value of those evidence/data?**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Type of Evidence** | **Proof Point** | **Commentary** | **Suggested Score** |
| 1 | Recent history of repairs/costs and anticipated repairs (Reliability may have cost implications past equipment maintenance) |  | “… we do not adopt the use of repair cost in determining equipment eligibility-based definitions.” |  |
| 2 | Replacement cost versus repair cost (There may be lead-time and/or down-time considerations that can be different and important in the comparison) |  | “… we do not adopt the use of repair cost in determining equipment eligibility-based definitions.” |  |
| 3 | Impact of repair versus replacement on maintenance costs |  | “… we do not adopt the use of repair cost in determining equipment eligibility-based definitions.” |  |
| 4 | Energy savings |  |  |  |
| 5 | Effective useful life of existing and replacement equipment (policy limit of 20 years may have caused reduction for of life for major capital projects – i.e., industrial processes) |  |  |  |
| 6 | Remaining useful life of existing (with and without repair) equipment |  |  |  |
| 7 | Historical capital budget planning documentation (prior to project) that indicates equipment-specific maintenance outlays AND Invoices of equipment-specific maintenance outlays |  |  |  |
| 8 | Lifecycle design documentation that indicates that the equipment was designed to operate for a period exceeding 20 years |  |  |  |
| 9 | In-house engineering analysis comparing repair vs replace (internal) AND estimated associated costs |  |  |  |
| 10 | Historical evidence of regular maintenance AND at least one documented instance of significant repair activities to critical systems that extends the life of the equipment |  |  |  |
| 11 | External scoping documentation regarding equipment-specific repairs AND cost estimates for repairs AND cost estimates for replacement |  |  |  |
| 12 | Evidence that the unit is “grandfathered” under AQMD rules AND scoping documentation for impending repairs AND cost estimates for repairs AND no AQMD violations that indicate that modifications to the existing equipment are intended for emissions compliance purposes |  |  |  |
| 13 |  |  |  |  |
| 14 |  |  |  |  |
| 15 |  |  |  |  |
| 16 |  |  |  |  |

**[Q5] How do we assign the evidence listed above to different tiers?**

Table 1. Summary of POE Proposals – Equipment Operation for Repair-Eligible/Indefinitely

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Full** | **Med Rigor (“Tier 1”)** | **Low Rigor (“Tier 2”)** | **“Tier 0” (potential option)** |
| **T1WG Proposal** | n/a | n/a | n/a | n/a |
| **Issues** |  |  |  |  |
| **T2WG - Equipment Viability** |  |  |  |  |
| **T2WG – Program Influence** | Same as regular POE | Same as regular POE | Same as regular POE | Same as regular POE |
| **T2WG – Affidavit** | Same as regular POE | Same as regular POE | Same as regular POE | Same as regular POE |
| **Position on T2WG Proposal** |
| Staff |  |  |  |  |
| IOU |  |  |  |  |
| Implementers |  |  |  |  |
| ORA |  |  |  |  |
| Other |  |  |  |  |

## **Implementation Issues**

Staff recommends a single combined category in terms of treatment in submissions of proposals for treatment of projects/measures as repair eligible or repair indefinitely:

* A class of equipment where the age of the equipment relative to its EUL has reduced (less or little) weight in the consideration of evidence for treatment as accelerated replacement. This is not to imply that the age of the equipment has no weight, but rather that if the age exceeds the EUL that alone cannot automatically disqualify the project for consideration using an AR treatment.

**[Q6] Are there reasons to keep separate and consider proposals in a separate manner?**

## **Submittal Process**

Staff/Consultants prefer an approach that allows “pre-qualification” of equipment types as eligible while allowing simplified site-specific criteria:

* CPUC will develop a submission/review/approval process for the PAs to submit equipment types that are proposed for this treatment.
* Submittal would include the equipment types (reference to specific measures, workpapers, etc.), the programs authorized to use the treatment, the evidence supporting the treatment and the criteria that will be used at the site/project/measure level to qualify specific equipment.

**[Q7] Collect input on the submittal process? (Consider doing this for Task 6 – do we need it now?)**

**[Q8] Other Questions/Issues?**