**THIS DOCUMENT INCLUDES THE COMMENTS COLLECTED DURING T2WG MEETING #3 -** Green text indicates notes collected during the meetings.

**(One) Implementer Proposal for Repair Eligible/Repair Indefinitely Qualification**

***\*\* Stakeholders agreed that may be inconsistent language or unclear intent on whether broken equipment should be eligible for an dual baseline \*\* <<follow up>>***

[ACTION] Need to clarify the intent of the resolution language on what is allowed for broken or equipment performing sub-optimally.

Jeff – Typical example of Repair-indefinitely is the boiler that gets repaired over and over. Used to be that if age > EUL the equipment would auto be disqualified. NOW, that equipment can be repair-indefinitely IFF pre-qualified

Jeff – Age/EUL should not be the only factor to determine whether equipment is eligible for replacement (point of repair opportunities); need to consider history of repair, cost of repair, how long until it is broken again; there are important differences for industrial

**Paden –** add-on equipment should not have the operational requirements; e.g., if the add-on equipment is broken (not the primary equipment); repair of broken add-on equipment should quality has repair-eligible after it has been non-operational for a period of time (e.g., 1 year). This would show the customer is likely not planning to fix the equipment.

Jesse – consider different scenarios; e.g. industrial customers have onsite mechanics who can repair equipment indefinitely

Ryan – we need to differentiate between equipment that is broken and still meeting needs from equipment that is broken and not meeting needs (argument for cases where existing baseline is appropriate)

Keith – max EUL by policy is 20 years (with some exceptions); max RUL is 10 years; Staff have authority to change in special cases <follow up>>

Leonel - we are missing data on persistence, so we don’t have data that demonstrates how long these equipment last.

**PROPOSAL Repair-Eligible would be have to be class of equipment types that are pre-qualified ( based on evidence) for early retirement / repair-indef. Equipment type must be pre-qualified with evidence that this type of equipment is commonly repaired rather than replaced. (Jeff)**

**PROPOSAL to combine repair-eligible/indefinitely into one category (Rob/SCE)**

* Rich – reasons for separating: indefinitely means the equipment is likely to operate in existing condition indefinitely .. impacts the baseline, existing conditions should be baseline in perpetuity . (If not baseline for full EUL, then assume RUL = 2/3 EUL?); there is an option to provide evidence for longer EUL (Leonel)

[ACTION] Interested parties should share additional edits/proposals

Resolution, Page 31 – Replacement of equipment that is broken, poorly performing, or not able to meet its load requirement must apply a normal replacement baseline.

**Background/Implementer Observations:**

Resolution E-4818 analyzes Repair Eligible and Repair Indefinitely cases and assumes “Rational decision-making” to Customer decisions, but Customer decisions affected by many factors, e.g.:

1. Availability of expense versus availability of capital dollars and process for allocation of capital.
2. Knowledge of options for replacement versus repair.
3. History of Customer approach to equipment repair versus replacement.

Challenge is to provide resources and incentives to encourage replacement of equipment with more efficient equipment/systems rather than repair existing equipment. Proposal is to simplify qualification for incentives/3P Programs for repair eligible and repair indefinitely opportunities.

**Repair Eligible Criteria/Definition/Straw proposal**

Ryan/PG&E – doesn’t understand why this would get to dual baseline.

**PROPOSAL - Get rid of repair-eligible. If something needs repaired, then use the Standard Practice baseline using information about what options the customer has.**

1. Existing equipment is not operating (not meeting Customer requirements) [ACTION] Need to get clarification on whether “not operating” is allowed in this definition or must go to normal replacement.
2. Existing equipment can be repaired to meet Customer requirements. Estimated cost of repair is available.
3. Alternative exists to replace equipment with more efficient new equipment and improve system efficiency (e.g., add controls and/or other system improvements)
4. Payback of replacement versus repair can be determined.
   1. Payback is Cost of new equipment option minus Cost of repair of existing equipment divided by system energy savings of new equipment/system improvements.
   2. Energy savings is existing equipment performance (energy use) prior to failure (if measurements available) or nominal efficiency/performance (energy use) of existing equipment (if measurements not available) minus efficiency/performance (energy use) of new equipment, including system improvements (as measured in post-project M&V). Nominal efficiency of existing equipment (if measurements are not available) would be determined as degraded performance as appropriate and justified.

Incentives paid per applicable program rules based on incremental cost of new equipment/system improvements (Incremental cost is cost of replacement/system improvements minus estimated cost of repair)

If repair would extend life of existing equipment for DEER EUL, no dual baseline – EUL of replacement equipment determines life cycle savings

If repair would extend life of existing equipment less than DEER EUL, apply Dual baseline with second baseline as Code.

If existing equipment is connected to other energy using equipment, a separate determination of repair/replacement of that equipment would be made at the time of failure or accelerated replacement of that equipment.

Rob/SCE – broken add-on equipment belongs in BRO, not Repair-Eligible; Paden agrees (e.g., boiler economizer)

**Repair Indefinitely Criteria/Definition/Straw proposal**

1. Existing equipment is operating and meeting Customer requirements
2. Existing equipment not in imminent failure mode (as verified at pre-inspection or per program rules)
3. Retrofit/Replacement identified in audit
   1. Internal Customer audit
   2. 3P Audit/Project Feasibility Study (PFS)
   3. Other Program audit/assessment
4. Existing equipment can be repaired to extend life for “foreseeable future”, e.g.:
   1. Re-wind motor
   2. Overhaul of compressor/chiller/pump/etc.
   3. Replace burned out lamps with like-for-like

Incentives paid per applicable program rules based on full replacement equipment/system improvement costs

No dual baseline – EUL of replacement equipment determines life cycle savings.

If existing equipment is connected to other energy using equipment (e.g. pump if pump motor is being replaced as repair indefinitely), a separate determination of repair/replacement would be made at the time of failure or accelerated replacement of that equipment.