

## **Asset Replacement Examples**

### **Example 1**

A DNSP identifies a 5MVA transformer is at the end of its serviceable life and plans to replace the transformer with a standard building block size transformer. The nearest “modern day equivalent” transformer size is 8MVA resulting in a 3MVA increase in capacity. There are no demand constraints at this substation. The manufacturer could build a 3 MVA transformer, however this is likely to be more costly due to it being non-standard.

### **Example 2**

A DNSP identifies a 33kV cable rated at 28MVA is at the end of its serviceable life and plans to replace the cable with the current standard conductor size used at 33kV which is rated at 40MVA. Following replacement the new conductor capacity is limited by existing switchgear to 34MVA which means that the full rating of the new conductor will not utilised. No further augmentation in the network is currently planned.

### **Example 3**

An old switchboard is being replaced. This has a fault rating of 12kA, and there are no limitations with this rating. The modern day version of this switchboard has a fault rating of 21kA.

## **Sunk Cost Examples**

### **Competitive Neutrality**

A DNSP identified the future need for a zone substation several years ago. A suitable site was purchased at that time. Over several years the demand has increased in the area. It now becomes important to consider a solution to address emerging limitations. A RIT-D is about to be conducted and, among other things, the NSP is gathering all relevant costs for credible options identified. In some respects the cost of the land is considered a sunk cost, and one which would not be included in the zone substation option being assessed. On the other hand, ignoring this cost presents a favourable outcome for the zone substation option. In seeking competitive neutrality, should the NSP include the cost? Further, should this cost be the escalated value of the amount actually paid or should it be a modern-day evaluation? In some respects, the escalated value of the amount actually paid could capture the prudence or otherwise of the foresight displayed by the NSP in acquiring the site in the first place. These factors become very relevant in areas where land values have risen substantially.

### **Reapplication of RIT-D**

The DNSP has undertaken a RIT-D and is progressing through protracted jurisdictional approval processes pertaining to planning laws. The preferred option, which satisfied the RIT-D, involves a new sub-transmission line. This line will traverse road reserves and some green space, and will provide a second source of supply to an existing zone substation supplying increased demand. Due to community opposition, another three years have passed since the RIT-D was completed. In the meantime, to meet the original commissioning date, switchgear, poles and conductors have been procured. The design has been completed and koala offsets have been made. Notably, no non-

network solution was evident from the original RIT-D process. However, due to the time which has elapsed, there is pressure to reapply the RIT-D in case there has been a material change of circumstances. Nevertheless, to comply with the rules and guidelines the decision is made to reapply the RIT-D. This second application reveals a credible non-network solution which negates the need for the line. However, if the cost of procured plant is included in this analysis the sub-transmission line is once again identified as the preferred solution. This option becomes more preferable if all the costs to date are included in the analysis. Should the DNSP treat these costs as sunk costs or should the DNSP include them in the analysis given this is a fair representation of options analysis at the time the second RIT-D is conducted?

### **Reapplication of RIT-D**

The DNSP has completed the RIT-D process and the preferred solution is a new power line to a residential and industrial development located outside the existing supply area. The DNSP is busy obtaining jurisdictional approvals and it soon becomes evident that the community in the area is opposed to the new line. The saga continues for five years without a clear resolution. However, it becomes apparent that the DNSP should reapply the RIT-D to comply with the rules and guidelines. This occurs because sections of underground cable are now needed to obtain approval and this has increased the cost. The second RIT-D is conducted. The outcome of this RIT-D process involves a new power line on a different route using cheaper overhead construction. However, obtaining jurisdictional approvals on the new route has resulted in further delays to the project and a different area of the community is once again opposing the line.

In subsequent reapplications there are material changes, however, the outcome is not producing a result in a timely manner. There has been a substantial cost involving consultation and rework to address challenges from the community and their consultants. Should all the costs to date be treated as sunk costs or should they be treated in the options analysis?