COGBENG-04L

Produce a Cost Model for a Biomanufacturing Process LEGACY

Overview

This unit covers the competences required for developing and then applying the principles and processes of cost modelling to a bioprocess. You will be expected to identify the key cost elements of a bioprocess, and to set quantifiable objectives and targets to improve the manufacturing process.

You will need to analyse the various steps of the bioprocess, identify and allocate costs of each of these steps, and identify the added and non-value-added activities within the bioprocess. You will be expected to identify appropriate improvements, prioritise and rank the alternatives, and identify the expected benefits. You will need to develop these alternatives into detailed proposals that will improve the bioprocess, and to provide recommendations for management approval.

This activity is likely to be undertaken by someone whose work role carries out process engineering work activities in a biochemical environment. This could include individuals working in the following industries, Chemical, Pharmaceutical and Life Science industries.

Performance criteria

You must be able to:

P1 identify what is required from the bioprocess, and set quantifiable objectives and targets for improvement
P2 identify the key cost drivers associated with the bioprocess
P3 allocate costs to the various bioprocess activities
P4 develop and maintain a cost model for the bioprocess
P5 analyse the performance of the various bioprocess activities and reconcile with the cost model
P6 identify new value-added processes to improve the bioprocess
P7 identify the non-value-added activity within the process, and suggest improvements
P8 develop identified improvements into detailed proposals that will improve the value of the product or process
P9 quantify the investment cost and expected benefits of the improvements and make appropriate costed recommendations to management

Knowledge and understanding

You need to know and understand:

K1 how to produce a total cost model for a bioprocess which shows how costs are related to a process activity
K2 how the cost model relates to the overall business strategy and competitive positioning
K3 how to calculate the cost of a bioprocess activity
K4 the impact of an aseptic bioprocess environment, product quality control and regulations on the cost model
K5 what constitutes value adding and non-value adding activities
K6 decision making and creativity techniques (brainstorming) to develop alternative options for bioprocess activities
K7 how to analyse the profitability of a projected investment to compare different processes and make investment decisions
K8 how to prioritise and rank the alternatives
K9 how to prepare the findings into proposals for presentation to management decision makers
K10 how to complete a risk assessment of the alternatives
K11 how to monitor and track proposals to implementation
K12 the extent of your own authority, and to whom you should report in the event of problems that you cannot resolve

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