



**RVA GROUP**

Decommissioning,  
decontamination,  
dismantling and demolition  
consulting engineers



**RVA Engineering Solutions Limited**

**Corporate Information & Services**

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## 1. Introduction

For over 30 years, RVA Group companies have been providing owners and operators of high-hazard, complex and large-scale capital assets with specialist services focused on decommissioning and end of life related tasks. These services – whilst initially designed to support clients during the physical decommissioning and demolition process – have been expanded during the last three decades, to enable corporate commercial strategies and financial provisions to be developed well in advance of actual decommissioning events; sometimes even commencing before an asset has been constructed and commissioned.

As market needs and increasingly stringent compliance criteria have evolved, so too has the range of products supplied by RVA. To ensure that we could continue to meet the dynamic demands of our clients, a subsidiary company – RVA Engineering Solutions Limited (ESL) – was established. Resources assigned to this entity were selected both for their knowledge of the decommissioning process and ability to critically analyse data, in order to produce value-adding and robust outputs.

Many of the assets in which ESL becomes involved are between 50 and 70 years old and have reached the end of their useful life, others are no longer commercially viable, and some are still destined to run for many years to come. However, they all will have a finite operating span and will require decommissioning.

As with the majority of engineering outputs, there is no ‘one size fits all’ solution to every situation. Not only does every asset vary, so too do the requirements of operators commissioning work from ESL. Each assignment is therefore individually assessed to ensure the needs of the client are always met.

In some instances, the business drivers may be focused on redundant portfolio management or the development of a medium-term strategy for gradual reduction of liabilities. In others, the main focus may be on financial provisioning and balance sheet justification to shareholders. Whatever the ultimate goal, ESL is able to bring together data and experience, gathered over many years, to produce information that will enable the client to make sound business decisions.

## 2. ESL's range of products and services

ESL's principal products can generally be categorised as set out below. It should be noted however, that often, to ensure optimised results, there is a crossover between the various types of studies provided. The precise scope, level and style of output, is always discussed and agreed at the beginning of each assignment:

1. Estimates
2. Feasibility and options studies
3. Asset Retirement Obligations (AROs) / Long Term Liability Studies (LTLS)
4. Asset management plans
  - a. Fleet long-term liability studies
  - b. Redundant asset management planx (RAMP)

This document seeks to illustrate the scenarios in which each tool will add most value.

### 2.1 Estimates

This is the base RVA ESL deliverable built around a defined scope of works (that can include decommissioning and demolition), which requires only an outline project plan alongside a cost estimate. The level of accuracy (+/- tolerance of information produced) is normally to international class 2 or 3 estimates (+20%/-15%).

The Estimate will be presented as a fully integrated and adjustable spreadsheet with full transparency as to the compilation of the costings (based on a 'resources v duration rates v quantities' basis) with individual tabs for different sections of the work. A short report will accompany an Estimate and include the following sections:

- Executive summary
- Introduction
- Scope of works
- Terms of references
- Costs and basis
- Duration/schedule
- Site plan

This deliverable is suited to clients who have a defined work scope and seek cost validation and underpinning for budget sanction or a similar purpose.

An estimate is often provided for a probable decommissioning project and is normally the last detailed costings study to be produced prior to tendering.

## 2.2 Feasibility and options studies

This product is generally used for more complex work scopes, e.g. dismantling in a live operational area, phased dismantling, particularly high hazard projects or those that will involve restricted or complex methodologies. As with an Estimate, the output is again a fully integrated and adjustable spreadsheet with full transparency as to the compilation of the costings with individual tabs for different sections of the work. The content and details of every report will always differ, but will typically include some (or all) of the following:

- Executive summary
- Scope of work definition
- Terms of reference
- Divestment options
  - Sale for use in-situ
  - Sale for relocation
  - Demolition
  - Mothballing
- Expressions of interest development
- Demolition options
  - Phasing
  - Methodologies
- Demolition
  - Decommissioning
  - Hazardous insulation materials
  - Demolition methodologies
  - Waste management requirements
  - Resources
- Remediation
- Costs presented as an editable spreadsheet to facilitate periodic adjustment and updating
- Basis of costings
- Programme and scheduling
- Project management
- EHS
  - Environment
  - Health & Safety

- Quality
- Execution strategy/commercials
- Notifications, permits, licenses
- EPR surrender
- Site plan
- Process description
- List of Major Plant Items (MPIs)
- Conclusions/Recommendations

### **2.3 Asset Retirement Obligations (ARO) / Long Term Liability Studies (LTLS)**

An ARO or LTLS is a financial provisioning tool. There are several reasons an asset owner should commission such a study:

1. To ensure compliance with international and domestic financial provisioning and accounting standards such as FAS143 in the US and IAS37 in Europe. These standards are to ensure that when the assets are eventually decommissioned, there is adequate funding reserved for this process.
2. To be able to dynamically provide high level decommissioning costs required for strategic decision-making processes, in relation to business drivers and future company direction.

To ensure an ARO or LTLS is fit for purpose, the level of accuracy (+/- tolerance of information produced) can be in a wider range than other studies for near-term or well-defined decommissioning projects, i.e. the decommissioning liability held by the client is generally to international class 4 or 5 estimates (+/-50%).

An ARO / LTLS report will generally comprise:

- Executive summary
- Introduction
- Terms of reference
- Scope of work and methodology
- Facility-specific information
- Costs
- Facility plan

The report will be supported by a fully integrated and adjustable spreadsheet with full transparency as to the compilation of the costings. In addition, the spreadsheet can be provided with the facility to add yearly compound interest.

Some clients have multiple facilities and in this case a Fleet LTLS can be provided. This includes the same report but with all facilities' specific information. The integrated spreadsheet will contain a working tab for each facility and a summary tab which lists all the main costings for each facility.

## **2.4 Redundant Asset Management Plans (RAMP)**

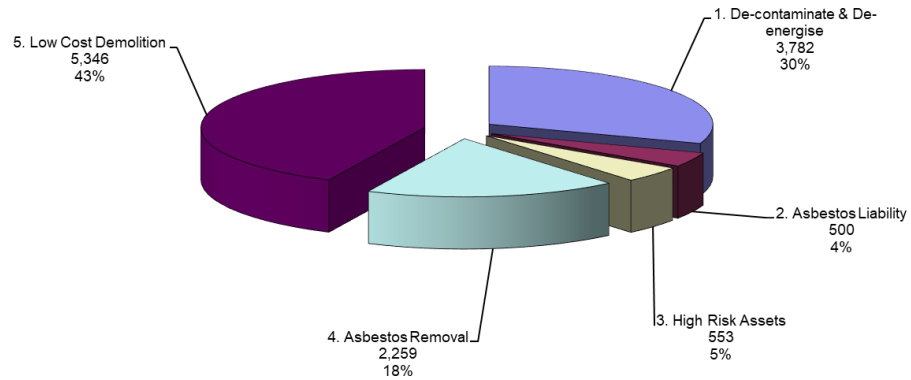
A RAMP is used to plan and assess potential decommissioning projects for foreseeable or actual non-operational assets. It is designed to provide clients with the necessary information and tools needed to make sound business decisions. As such, the accuracy of the decommissioning costs included in such studies needs to be higher, and generally to international class 2 or 3 estimate level (+20%/-15%).

To achieve this, there must be a more detailed assessment of each facility (documentation review, site surveys, etc). The output is an advanced and detailed report – specific to the client – which typically contains information similar to those of a feasibility and options study.

This report is supported by a series of integrated spreadsheets. Each facility will have a specific detailed spreadsheet with individual tabs for different sections of the work (isolations/decontamination, HIM/asbestos, dismantling, remediation, etc). Tabs for the base data (scrap, waste, resource and plant rates, equipment list, etc), will also be displayed.

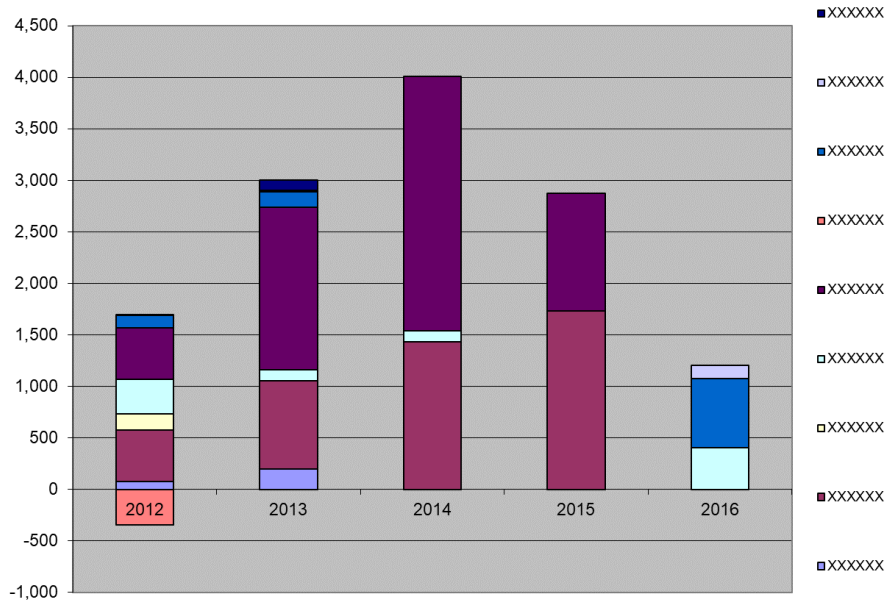
In addition, a RAMP will include an over-arching spreadsheet that collates and tabulates all information from the individual facility spreadsheets and, if required, displays it in chart form. This then enables the various facilities, types of work, priority work, and alternative options etc, to be considered and assessed. A detailed, cost-effective schedule of works can also be developed, to identify and meet the client's business drivers.

### Redundant Plant Management Programme



This chart shows expenditure per activity compared to other activities.

**Redundant Assets Management Programme  
5 Year Plan**



This chart shows facility expenditure on different facilities over a five-year programme.

## 2.5 Additional studies and reports

ESL can also produce a range of other outputs, including:



### **2.5.1 Decommissioning plans**

This is a legal report associated with the permitting of activities on an industrial site. It varies in content and detail from country to country, but can include the following types of information:

- Soil and groundwater sampling
- Monitoring programme
- Ground remediation scope/methodology
- Site Waste Management Plan (SWMP)
- Decommissioning environmental risk assessment

### **2.5.2 Site waste management plans (SWMP)**

A SWMP is a document that presents an initial assessment of the extent of scrap, waste categories and quantities that will be produced by the decommissioning project. This knowledge (and potential disposal routes) can be of benefit to a client in the early environmental planning stages and in preparation for any environmental licensing work/surrender.

### **2.5.3 Expressions of Interest (EOI)**

ESL can produce a range of EOI outputs, as follows:

- Sales of complete facilities or large sections of these
- Sale of discrete systems within a facility
- Sale of individual plant items

#### **2.5.3.1 Sale of facilities and systems**

The potential sale of facilities, where considered viable, can be developed jointly with the client via its knowledge of the relevant industry/sector and through specialist equipment dealers.

#### **2.5.3.2 Sale of plant items**

Typically, only generic items have potential for standalone sale. Most specialist equipment is designed for a single specific use or process and may be difficult to place in the resale market. However, there are exceptions where single items have been sold and relocated, providing the vendor with enhanced asset monetisation and value.