

# Oil and Gas

## Business Scenario

SafeMark Gas Experts (SafeMark) has been involved in gas detection in the workplace for over 40 years and offers safety solutions to Australian infrastructure and resource companies. To maintain the trust of its clients and keep its industry-leading reputation, SafeMark conducts regular R&D work.

In March of 2013, SafeMark found a need for a guard that detected flammable materials which led to the start of Project Flame Guard in April of 2013. The hypothesis for its project was that SafeMark could design and develop an examined guard with innovative features to detect flammable material in an improved manner to what currently existed on the market.

Before making its initial R&D claim, SafeMark needed to determine the eligibility of its proposed R&D activities in order to know if it qualified for the R&D Tax Incentive. Once it identified the specific activities that qualified as R&D, it needed to decide whether each activity was a core or supporting R&D activity. After self-assessing, SafeMark decided to register one core activity and two supporting activities with AusIndustry in 2013.

## SafeMark's Core R&D Activities:

Design and development of a series of prototypes to achieve the technical objectives (design of the examined guard).

SafeMark's hypothesis for its experiments questioned whether it was feasible to design an examined guard to detect flammable materials that was easier to use in the field and reduced operating costs for clients.

The experiments SafeMark conducted in the design phase mainly consisted of computer modelling, conceptual engineering drawings and mathematical calculations. These experiments could only be proven effective or ineffective in the prototype development and testing phase. Following the experiments in that phase, during which the product was built and tested in various applications, the design was modified and re-tested until the desired outcome was achieved.



## Commentary

### Identifying Core R&D Activities

There are two types of core R&D activities:

1. Experimental activities whose outcome can not be determined in advance on the basis of current knowledge, information or experience, but can only be known by exercising a systematic progression of work that follows the principles of established science, proceeding from hypothesis to experiment, observation and evaluation, and lead to logical conclusions.
2. Experimental activities that are conducted for the purpose of creating new knowledge.

### Hypothesis Defined

AusIndustry recognises a hypothesis as a statement or proposition about what result is expected if certain conditions are put in place and certain actions are carried out in an experiment. It can range from an assumption or proposition to a theory, but it must establish the experimental activity and form part of a broader systematic progression of work undertaken by the company. It must be evident that the claimed experiment has been designed to test the hypothesis.

If the outcome of an activity can be obtained without a hypothesis, then the activity will not be considered R&D.

## SafeMark's Supporting R&D Activities

Background research to evaluate current knowledge gaps and determine feasibility (background research for the examined guard).

SafeMark's R&D activities included:

- Literature search and review, including maintaining up-to-date knowledge on relevant certification and standards.
- Consultation with industry professionals and potential customers to determine the level of interest and commercial feasibility of the product.
- Preliminary equipment and resources review with respect to capacity, performance and suitability for the project.
- Consultation with key component/part/assembly suppliers to determine the factors they considered important in the design and gain an understanding of how the design needed to be structured accordingly.

The background research conducted by SafeMark qualified as a supporting R&D activity because it was directly related to the core activity of designing a guard capable of detecting flammable materials.

Ongoing analysis of customer or user feedback to improve the prototype design (feedback R&D of the examined guard).

Feedback of the examined guard included:

- Ongoing analysis and testing to improve the efficiency and safety of the project.
- Ongoing development and modification to interpret the experimental results and draw conclusions that served as starting points for the development of new hypotheses.
- Commercial analysis and functionality review.

This feedback was necessary to evaluate the performance capabilities of the new design in the field and to improve any flaws in the design. There was a direct correlation between the feedback and the design process of the examined guard, thus making it an eligible supporting R&D activity.

## Commentary

### Identifying Supporting R&D Activities

Activities that do not form part of the core experimental activities may still be eligible as supporting R&D activities. Supporting R&D activities are directly related to an eligible core R&D activity. They must have been performed for the primary purpose of supporting a qualified R&D activity.

### What records and specific documentation did SafeMark keep?

To meet the R&D Tax Incentive requirements, SafeMark had to save documents that outlined what it did in its core R&D activity, including experimental activities and documents to prove that the work took place in a systematic manner.

SafeMark saved the following documentation:

- Background research
- Meeting notes or progress reports, including internal project management issues and updates
- Conceptual sketches
- Design drawings
- Emails

By having these records on file, SafeMark confirmed that it was 'compliance ready' – meaning if it was audited by the ATO, it could present documentation to show the progression of its R&D activity.