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← Mobil Oil Australia → Ltd and Industry Research and Development Board [1995] AATA 133; (1995) 95 ATC 2042; (1995) 30 ATR 1364 (19 May 1995)

ADMINISTRATIVE APPEALS TRIBUNAL

← MOBIL OIL AUSTRALIA → LTD v. INDUSTRY RESEARCH AND DEVELOPMENT BOARD

No. V94/456

AAT No. 10193

Number of pages - 8

Industry Research and Development
(1995) 95 ATC 2042

[\(1995\) 30 ATR 1364](#)

COURT

ADMINISTRATIVE APPEALS TRIBUNAL

GENERAL ADMINISTRATIVE DIVISION

B. FORREST (Deputy President), D. ELSUM (Member) AND R. GILLHAM (Member)

CATCHWORDS

Industry Research and Development - Oil refinery trial - whether constitutes research and development activities - whether systematic, investigative or experimental - whether involved innovation or technical risk - whether carried on for purpose of acquiring new knowledge - whether trial constituted "other activities" - decision affirmed.

[Industry Research and Development Act 1986](#)

[Income Tax Assessment Act 1936](#) s. 73B(1), 73(B)2

HEARING

MELBOURNE, 3,6,7,8 and 9 February 1995

19:5:1995

Counsel for the Applicant: Mr N. Forsyth, QC and Mr T. Murphy

Counsel for the Respondent: Mr C. Gunst

ORDER





The decision under review is affirmed.

DECISION

B. FORREST, D. ELSUM AND R. GILLHAM These are the published Reasons for Decision in this matter. The Reasons for Decision delivered to the parties have, for publication purposes, been abridged to the extent that references to the evidence and documents that were the subject of a confidentiality order made pursuant to [s. 35](#) of the [Administrative Appeals Tribunal Act 1975](#) have been deleted.

2. The respondent, the Industry Research and Development Board ("the IRDB"), has the power under s. 39L of the [Industry Research and Development Act 1986](#) ("the [IR and D Act](#)") to make determinations as to the eligibility of research and development ("R and D") activities as defined in sub-s. 73B(1) of the [Income Tax Assessment Act 1936](#) ("ITA Act") and to issue certificates to the Commissioner of Taxation in respect of those activities.

3. The Tax Concession Committee of the IRDB is a committee established pursuant to [s. 22\(1\)](#) of the [IR and D Act](#) and exercises a delegation from the respondent pursuant to [s. 22\(1A\)](#) to determine tax concession eligibility issues on behalf of the respondent.

4. The applicant,  **Mobil Oil Australia**  Ltd, seeks review of that part of a decision taken on 18 May 1994 by the Tax Concession Committee as delegate of the respondent confirming its decision of 6 April 1994 that the activities known as the Arab Light/Gippsland Crude project undertaken by  **Mobil Oil Australia**  Ltd ("the refinery trial") did not meet the definition of research and development in the [ITA Act](#) as the activities did not show evidence of innovation or technical risk and were not carried out in a way that was systematic, investigative or experimental.

5. On 9 November 1993 the applicant had applied for registration for the 150 per cent tax concession for claimed eligible R and D expenditure of \$23,838,887 in respect of the project.

6. The Tax Concession Committee decided that the laboratory activities and computer modelling carried on prior to the refinery trial met the definition of R and D but the refinery trial itself did not.

7. The issue for the Tribunal, therefore, is whether the refinery trial constitutes R and D as defined in sub-s. 73B(1) of the [ITA Act](#).

8. Sub-section 73B(1) of the [ITA Act](#) relevantly reads:

"73B(1) In this section, unless the contrary intention appears-
"research and development activities" means-
systematic, investigative or experimental activities that-
are carried on in Australia or in an external Territory;
involve innovation or technical risk; and
are carried on for the purpose-
of acquiring new knowledge (whether or not that knowledge will have

a specific practical application); or
creating new or improved materials, products, devices, processes or
services; or
other activities that-
are carried on in Australia or in an external Territory; and
are carried on for a purpose directly related to the carrying on of
activities of the kind referred to in paragraph (a);..."

9. Sub-section 73B(2) relevantly provides:

"73B(2) For the purposes of the definition of "research and
development activities" in subsection (1), activities that are
carried on by way of-

- (a) market research, market testing or market development, or
sales promotion (including consumer surveys);
- (b) quality control;
- ...
- (d) the making of cosmetic modifications or stylistic changes
to products, processes or production methods;
- ...

shall be taken not to be systematic, investigative or
experimental activities."

10. At the hearing oral evidence was given on behalf of the applicant by Professor D.V. Boger, Professor O.E. Potter, Associate Professor J. Mathews, Mr A.K. Forbes and Mr D.E. Blicblau. Oral evidence was given on behalf of the respondent by Dr D. Seddon, Professor R.G.H. Prince and Professor D. Trimm.

11. In addition to the documents lodged pursuant to [s. 37](#) of the [Administrative Appeals Tribunal Act 1975](#) (T1-T21 pgs. 1-299 inclusive) witness statements made by all the witnesses who gave oral evidence were received in evidence (except in the case of Mr Blicblau who was called to give evidence at very short notice). A number of other documents were also tendered in evidence.

Background

12. A wholly-owned subsidiary of the applicant, Mobil Refining Australia Pty Ltd, previously known as Petroleum Refineries (Australia) Pty Ltd owns refineries at Altona, Victoria and Port Stanvac, South Australia and processes crude oil for the applicant for a fee. The Altona refinery refines indigenous crude oil known as Gippsland crude ("GC") which it receives from the producers by means of a pipeline known as the "WAG line". The name signifies Westernport, in particular Long Island Point, (where stabilised crude is fed into the pipeline) and Altona and Geelong (where the crude is discharged into the storage tanks at the Mobil and Shell refineries respectively). The Port Stanvac refinery (often referred to as the "Adelaide refinery") refines imported crude oil, including Arab Light crude ("ALC").

13. The object of refining crude oil is to produce commercially saleable products such as (in order of increasing specific gravity, that is, from "light" to "heavy" products):

- Liquefied petroleum gas
- gasoline (petrol)
- jet fuel
- kerosene

heating oil
automotive diesel oil
industrial diesel oil
gas oil
fuel oil
bitumen

14. In general terms the lighter the product the more valuable it is, so that, for example, gasoline commands a better price than fuel oil.

15. Crude oils vary in the relative volume and range of products which are produced by the first major process in the refinery which is by distillation at atmospheric pressure.

16. More of the lighter fractions can be separated at reduced pressure that is by vacuum distillation.

17. An indication of the "lightness" of a crude oil is given by its API gravity, a number calculated by the formula:

$$\text{API} = \frac{141.5}{\text{specific gravity} - 131.5}$$

18. The lighter the oil, that is the lower the specific gravity/density of the oil, the larger is its quoted API gravity. Thus, according to the "Oil and Gas Journal" database quoted in Table 1.5B(i) annexed to Dr D. Seddon's witness statement which was tendered as Exhibit 2, GC, with an API gravity of 45.4, has a density at 15(C of 0.7993 g/ml, whereas the heavier crude, ALC, with an API gravity of 34.4, has the higher density of 0.8581 g/ml according to the same reference.

19. Subject to the demands of the markets served, the greater the volume of the lighter products produced per unit volume of crude oil the more valuable the crude oil is. In this regard GC produces more light products and less heavy products than ALC and thus is the more valuable crude oil. In both cases some of the heavy material can be broken down further by treatment in the presence of a catalyst to produce further volumes of the lighter products. The Port Stanvac refinery is not equipped with such a facility. The Altona refinery, however, has operated such a process unit since 1954. This unit, known as the Thermoform Catalytic Cracker ("TCC"), has largely been superseded, world-wide, by the Fluid Catalytic Cracker ("FCC"). The TCC is Mobil technology. Only a very few refineries now operate a TCC. The Altona refinery, including the TCC, was redesigned in 1969 to operate on GC. The refinery has a throughput capacity of 108,000 barrels per day (B/D) or 17.2 megalitres per day (ML/D).

20. Crude oils can vary in their sulphur content and their wax content. Higher sulphur - containing crude oils are known as "sour" crudes, and lower sulphur - containing crude oils are known as "sweet" crudes. GC is sweet and ALC is sour. GC is a waxy crude and ALC is a non-waxy crude. The problems with high sulphur ("HS") crude oil include the need to take steps to avoid environmental pollution during the refining process and to maintain low sulphur levels in products except where they can be tolerated, such as in certain heavy fuel oils. High wax levels result in the need to achieve higher temperatures before the oil will begin to flow. The temperature at which this occurs is known as the "pour point" of the oil. Thus a high wax content results in a high pour point ("HP") oil as opposed to a low pour point ("LP") oil. Thus GC is a low sulphur ("LS") HP crude oil and ALC is a HSLP crude oil.

21. The feature in the crude oil of high sulphur content (such as is the case with ALC) can translate to a

high sulphur content in the heavy fuel oil produced from that crude oil unless the fuel oil is specially treated. The feature in the crude oil of high wax content and high pour point (such as is the case with GC) results in a high wax content in the heavy fuel oil ("HFO") produced, and consequently a high pour point.

22. In early 1992 two trends had become apparent to the applicant:

Production of GC was decreasing. From a peak production of 600,000 B/D in 1985/1986 production was down to 300,000 B/D. Thus there was concern for the future viability of the refinery which is now designed to handle only GC and similar crude oils.

Demand for LS (sweet) south east Asian crudes had increased; in particular, demand by Japanese refiners as a consequence of environmental constraints to which they were subject had raised the price of these crudes vis-a-vis sour crudes such as ALC.

Consequently, the applicant initiated a project which it said had two basic technical objectives:

(1) to determine the percentage blend* of ALC and GC which could be effectively processed through the refinery and which would provide a product range with specified characteristics; and

(2) to establish a set of operating parameters under which the refinery could produce on-specification products from such a blend.

(*When one crude is added to another crude stream, or a refined product is added to a crude stream, the added material is termed a "spike".)

23. In particular, the applicant said that the aim of the project was to determine the proportion of ALC to GC given the structure of the refinery as it then existed. It was anticipated that the Altona refinery could process some ALC blended with GC but the precise proportion that could be processed was unknown. Studies involving laboratory activities and computer modelling were carried out by the applicant. These were conducted in the six weeks prior to the refinery trial which was to be undertaken by the applicant commencing on 28 January 1992. The refinery trial was to involve the co-mingling of some ALC with the normal crude feed (that is, GC) over a period of six days.

Submissions

24. Senior counsel for the applicant Mr Forsyth QC said that the definition of R and D in sub-s. 73B(1) of the [ITA Act](#) involves three tests. For the purposes of para. 73B(1)(a) the refinery trial was both systematic and experimental. Insofar as sub-para. 73B(1)(a)(ii) is concerned, the refinery trial involved innovation and technical risk and, for sub-para. 73B(1)(a)(iii), the refinery trial was carried on for the purpose of acquiring new knowledge, specifically to find out what the products would be and what the effect on the refinery would be. He said that there was a good deal of overlap between the three tests.

25. Further, he submitted that if the refinery trial was found by the Tribunal not to qualify in respect of the tests under para. (a) then, on the basis that the laboratory activities and computer modelling have been found by the respondent to qualify, the refinery trial would itself qualify under para. (b), in that it represented activities that "are carried on for a purpose directly related to the carrying on of activities of the kind referred to in paragraph (a);..."

26. Mr Forsyth submitted that the refinery trial whereby ALC was co-mingled with GC was innovative because it had not been done before by anyone or, if it had, it had been held in confidence. He argued there was technical risk because the applicant did not know what products would eventuate since

complex interactions take place; for example, would an admixture of ALC in the crude feed materially lower the pour point of products, in particular HFO, recognising that, as he said, the pour point of GC is 42 degrees C and that of ALC is -15 degrees C? So far as sulphur was concerned, the question was where would the additional sulphur in the co-mingled crude end up? Would it be spread over the products and how would it affect the air emissions? He said the applicant went to a great deal of trouble, involving getting the ALC, organising tankage, communicating with a major customer and the Environment Protection Authority, carrying out more frequent sampling of refinery products, making constant adjustments to operating parameters and rerouting streams during the refinery trial. The applicant wanted to know what would happen when it mixed ALC with GC.

1. Was The Refinery Trial Systematic, Investigative Or Experimental?

27. We have considered the question of whether the activities carried on during these last three days of the refinery trial constituted "systematic, investigative or experimental activities" as a separate question from that concerning the first three days of the refinery trial, and it will be dealt with first.

28. We are of the opinion that the activities of the last three days of the refinery trial fail to meet the requirements for description as systematic, investigative or experimental.

29. The principal reasons are that knowledge of the value of the main variable was absent and data was not collected. Indeed, no data relating to the last three days of the six-day trial was included in the report on the trial.

30. Clearly, any intent to conduct R and D activities, if it existed previously, disappeared in circumstances where the main variable could not be measured and where a decision was taken not to collect data.

31. However, we are of the view that the first three days of the refinery trial which involved planning the incorporation of ALC in the GC feed stream, the acquisition of the required amount of ALC, the discussions with the regulatory authorities and a customer, process monitoring by professional staff and the additional testing schedule during this period meet the requirement for the activities concerned to be systematic which is relevantly defined in the New Shorter Oxford Dictionary, as "arranged or conducted according to a system, plan or organized method".

32. Although it is not necessary to make further findings under this heading but in deference to the submissions, we also find that the first three days of the refinery trial constituted experimental activities, "experimental" being defined by the same authority as "Based on, derived from, or making use of experiment". "Experiment" is defined, relevantly, as "an action or procedure undertaken to make a discovery, test a hypothesis or demonstrate a known fact", the facts having been determined by the laboratory activities and computer modelling which took place during the six week period prior to the refinery trial and accepted as R and D activities.

2. Did The Refinery Trial Involve Innovation Or Technical Risk?

A. Innovation

33. Professor Prince, Professor Trimm and Dr Seddon did not support the applicant's contention that the refinery trial involved innovation. Because of the qualified support from the applicant's witnesses, Professor Boger and Associate Professor Mathews, as to whether, in the light of the outcome of the refinery trial, the activities involved innovation; the absence of attempts by the applicant to find out what had been done overseas directly or through company connections or through process licensors; the likelihood that a similar operation is routinely carried out in Germany and the fact that information about it appeared to have been readily obtainable; and the lack of utilisation of in-company resources, it is in our view not appropriate to regard the refinery trial as innovative.

B. Technical Risk.

34. There appeared to be agreement between the parties as to the meaning of "technical risk". Mr Forsyth commented:

"As far as technical risk is concerned, the dictionary is not very helpful here because of the combination of the two words but there seem to be general agreement amongst the experts that it is referring to uncertainty as to outcome and that indeed seems to be the logical meaning of the words in the context. So there has to be a relevant uncertainty as to outcome. And we would accept once again that it has to be a material uncertainty. As my learned friend says there is always some element of uncertainty at the margin, complete precision is not possible in whatever you do and we would agree that very minor uncertainty as to outcome certainly will not qualify, it has to be a material uncertainty but once again that is not a vigorous hurdle."

(Tr. p. 404)

35. The applicant contended that the key issues involved in processing a mixture of Arab and Gippsland crudes at Altona were sulphur emissions and the pour point and sulphur content of certain products.

36. We find that the refinery trial did not involve technical risk.

3. Was The Refinery Trial Carried On For The Purpose Of Acquiring New Knowledge..."

37. The applicant had past experience of test runs. In the present case any new knowledge, not in existence previously, which was acquired was not beyond that which could reasonably be expected to be demonstrated in a test run, using a blend of standard crude oils in a standard refinery.

38. In our finding the first three days of the refinery trial (the last three days have already been dealt with) constituted a demonstration run for the purpose of demonstrating new knowledge that had been developed in the laboratory activities and computer modelling "to assess the economic benefits of this type of operation".

39. It follows, in our opinion that the refinery trial was not carried on for the purpose of acquiring new knowledge within the meaning of sub-s. 73(B)(iii)(A) or 73(B)(iii)(B).

4. Did The Refinery Trial Constitute "Other Activities"?

40. Since the respondent has accepted that the work done in the applicant's laboratory and the work done by computer modelling prior to the refinery trial constituted R and D activities, those activities were, by virtue of the definition of R and D activities in s. 73B(1), activities carried on for the purpose:

"(A) of acquiring new knowledge (whether or not that knowledge will have a specific practical application); or ..."

41. It was submitted by Mr Forsyth that, if the applicant fails in its claim for the refinery trial to be deemed to be R and D activities, then para. (b) of the definition of R and D activities should allow the applicant to succeed since, in his submission, the refinery trial represented the "other activities" described in b(i) and b(ii) which are alternatives to a(i), a(ii) and a(iii), that is:

"(b) other activities that-
(i) are carried on in Australia or in an external

Territory; and

(ii) are carried on for a purpose directly related to the carrying on of activities of the kind referred to in paragraph (a);"

42. It is our view that the new knowledge acquired as a consequence of the accepted R and D activities (that is, the laboratory work and the computer modelling which preceded the refinery trial) did, indeed, have a "specific practical application", and that was the refinery run which took place with the equipment at the full (or near full) or normal capacity of 108,000 B/D or 17.2 ML/D.

43. Such "specific practical application" of the new knowledge acquired as a consequence of the accepted R and D activities was not "carried on for a purpose directly related to the carrying on of activities of the kind referred to in paragraph (a)"; that is, the laboratory activities and the computer modelling. That provision would be appropriate for activities which were in some way inputs to, or of assistance to, the accepted R and D activities. The refinery trial could not be described or interpreted in this way.

44. It is clearly not the intention of the [ITA Act](#) that the practical application of new knowledge should attract the tax incentive offered in relation to the acquisition of the new knowledge.

45. Moreover, since the eligible activities are, by definition, activities that are carried on for the purpose of acquiring new knowledge or creating new or improved materials, products, devices, processes or services, then other activities that are carried on for a purpose directly related to the carrying on of the eligible activities will have been taken into account in qualifying those activities as eligible.

46. Thus the submission that the refinery trial is eligible as an R and D activity by virtue of the operation of (b) of the definition of R and D activities in sub-s. 73B(1) of the Act is not accepted.

Conclusion

47. The refinery trial was not "research and development activities" in that, although the first three days activities were systematic and experimental (the last three days activities were not) and were carried on in Australia, they did not involve innovation or technical risk; they were carried on for the purposes of production and any new knowledge acquired was of the type that would be acquired during any test run demonstrating the effects of a variation in crude feedstock. They were not carried on for the purpose of creating new or improved materials, products, devices, processes or services and were not activities carried on for a purpose directly related to the carrying on of activities of the kind referred to in para. 73B(1)(a).

48. For these reasons the decision under review is affirmed.