REPORT TO : **BEST VALUE SUB-COMMITTEE – 11th September 2000**

REPORT ON: **BEST VALUE REVIEW OF SCIENTIFIC SERVICES WITHIN THE ENVIRONMENTAL AND CONSUMER PROTECTION DEPARTMENT**

REPORT BY: **CHIEF EXECUTIVE**

REPORT NO: **567-2000**

1 PURPOSE OF REPORT

1.1 To report on the Best Value Review into Scientific Services provided by Environmental and Consumer Protection Department.

2 RECOMMENDATIONS

2.1 It is recommended that the sub-committee:

a) agree the outcome of the review as contained in this report;

b) note those areas for continuous improvement in Section 13 of this report which can be summarised as follows:-

- Maintain or improve the quality of the service provided as measured by performance in proficiency testing schemes and customer questionnaire and by maintaining and extending the scope of laboratory accreditation.

- Meet or improve on the target turnaround times for test reports.

- Hold the cost per workload unit to the rate of inflation.

- Maintain or improve on the accessibility to the service as measured by customer questionnaire.

3 FINANCIAL IMPLICATIONS

3.1 This review accounts for 5.07% of the Department's 1999-2000 Revenue Budget of £14,748,000, amounting to £747,700.

4 LOCAL AGENDA 21 IMPLICATIONS

4.1 Local needs for scientific services are met locally.

4.2 The testing of foods, waters and consumer goods by Scientific Services enables an appraisal to be made of their safety, quality and value for money.

4.3 Scientific Services plays a role in protecting health by monitoring the environment to ensure that it is safe clean and pleasant.

5 EQUAL OPPORTUNITIES IMPLICATIONS

5.1 There are no Equal Opportunities implications arising out of this report.

6 DEFINITION OF SERVICE REVIEWED

6.1 The service under review is the testing and advisory service provided to the Environmental Health, Trading Standards and various other Departments of the Councils in Dundee, Angus, Perth & Kinross, Fife and to the private sector, with regard to environmental pollution, consumer safety, agricultural analysis and the chemical and microbiological aspects of food safety and water quality.

7 JUSTIFICATION FOR REVIEWING THIS SERVICE

7.1 A Best Value Review will enable Scientific Services to identify any changes required to provide a more efficient and effective service to its customers.

7.2 Following the government's decision to create a Food Standards Agency, the 1998 Review of Food Related Scientific Services in Scotland by Professor Timbury proposed that the four Scottish Public Analyst's Laboratories operate a more formal partnership or network of services.

It will, therefore, be of benefit to review the service that the Dundee laboratory provides in comparison with the other laboratories.

7.3 In connection with the maintenance of the minute of agreement with the Councils of Dundee, Angus and Perth & Kinross and maintenance of the service level agreement with Fife Council, it will be beneficial to demonstrate to the Councils that the quality of the service provided to them by Scientific Services is subject to review.

8 REVIEW METHODOLOGY

8.1 The Review Team consisted of a Review Team Leader (from Management Services Department), a Lead Officer (Scientific Services Manager / Public Analyst), two members of staff from Scientific Services and one member of staff from Finance Department.

8.2 The Review was conducted by means of questionnaire and customer consultation to identify critical success factors. This was followed by a review of current performance and a comparison through a benchmarking study, which was used to identify significant elements of the service which could be compared with other providers.

9 CRITICAL SUCCESS FACTORS

9.1 Stakeholders

The stakeholders were identified as customers and staff of Scientific Services. The customers consist of the following:-

- Dundee City Council (Lead Authority)
- Angus Council
- Perth & Kinross Council
- Fife Council
- Central Government
- Universities and other Educational Establishments
- Tayside Health Board
- North of Scotland Water Authority
- Other Public Analyst's Laboratories
- Private Sector
- General Public
- Scottish Environmental Protection Agency

9.2 Critical Success Factors

The Critical Success Factors were determined from questionnaires circulated to customers and staff. Four factors were identified by a large proportion of customers as essential to the provision of a satisfactory service. These were:-

Quality of reported results.....100%

Turnaround time for reports.....96%

Cost /value for money.....87%

Accessibility to the service in person / by telephone.....73%

10 PERFORMANCE REVIEW

10.1 Having identified the above Critical Success Factors, the Performance Indicators were chosen to establish baseline data, identify issues and highlight areas for improvement as follows:

Critical Success Factor	Performance Indicator
Quality	Percentage of satisfactory results in external Proficiency Testing Schemes in four main categories:- Food; waters; microbiology and environment.
	Percentage of results issued which had United Kingdom Accreditation Service (UKAS) accredited status.
	Successful maintenance of UKAS Accreditation.
	Assessment of quality by annual questionnaire to customers.
Turnaround Time	Sample target reporting time contained in the Fife Service Level Agreement and agreed with Dundee, Angus and Perth & Kinross Councils.
Cost	Cost per workload unit.
Accessibility	Qualitative assessment by annual questionnaire to customers.

10.2 The performance with regard to quality, turnaround times and costs for the financial year 1999 - 2000 was compared with baseline figures for the financial year 1998 -1999.

10.3 **Quality -** Proficiency Testing Schemes

Table 1 shows the percentage of results rated as satisfactory by the four laboratory sections in a range of Proficiency Testing (PT) schemes.

Participation in PT schemes provides a means of externally monitoring and assessing the quality of the different fields of testing carried out in the laboratory. It is a requirement of accreditation by the United Kingdom Accreditation Service (UKAS) that Scientific Services participate and perform satisfactorily in appropriate PT schemes.

Table 1 : Performance in Proficiency Tests

Section	Percentage of Satisfactory Results	
	1998 - 1999	1999 - 2000
1 Foods - Examination and Analysis	82.8% (53/64)	86.2% (50/58)
2 Consumer Protection and Environment	90.0% (81/90)	89.1% (131/147)
3 Trace Components and Waters	80.2% (203/253)	90.5% (134/148)
4 Microbiology of Foods and Waters	93.3% (152/163)	91.1% (113/124)

10.4 **Quality -** Results with UKAS Accredited Status

The United Kingdom Accreditation Service (UKAS) is the UK national body responsible for assessing and accrediting the competence of organisations; it operates under a memorandum of understanding with the Department of Trade and Industry.

Accreditation is granted to laboratories that have been assessed by UKAS and have demonstrated their compliance with the requirements of ISO/IEC 17025 (General Requirements for the Competence of Testing and Calibration Laboratories).

Since each test is accredited individually by UKAS, the scope of accreditation has to be reviewed each year to meet the demands of the service (eg when new tests are required by a customer). For tests which are required infrequently or for which there is no standard procedure, accreditation is generally not cost effective.

Table 2 shows the proportion of the results issued which had UKAS accredited status.

To meet the requirements of the Agreement on Standards for Official Food Control Laboratories between UKAS, the Ministry of Agriculture, Fisheries and Food (MAFF) and the Department of Health (DoH) (as required by EC Directives 89/397/EEC and 93/99/EEC), a high priority was initially given to accreditation for food testing. This is reflected in the generally high percentage of accredited results provided by laboratory Sections 1, 3 and 4.

Of the tests in laboratory Section 2 (Consumer Protection and Environment), a considerable proportion are performed relatively infrequently, hence, although subject to normal quality assurance, a lower number of accredited results are issued. A greater emphasis will now be placed on obtaining accreditation for non-food testing while continuing to maintain accreditation to meet the requirements for Official Food Control Laboratories.

Table 2. Accredited Results Issued 1998 - 2000

Section	Results with Accredited Status	
	1998 - 1999	1999 - 2000
1 Foods - Examination and Analysis	67.6%	67.9%
2 Consumer Protection and Environment	2.3%	3.7%
3 Trace Components and Waters	42.5%	42.4%
4 Microbiology of Foods and Waters	78.1%	73.9%

10.5 **Quality -** Maintenance of UKAS Accreditation

During 1998 and 1999 the existing scope of accreditation was maintained.

The scope was increased in 1998 by eleven methods and in 1999 by eight methods. These extensions to the scope of accreditation were implemented to meet the requirements of the Agreement on Standards for Official Food Control Laboratories between UKAS, MAFF and DoH.

10.6 **Quality -** Assessment of Customer Satisfaction by Questionnaire

In May 1999, questionnaires were sent out to 168 customers and 55 (33%) were returned. The proportion of responses which rated the quality of service good or very good were as follows:-.

Accuracy and Reliability of Results.....94%
Professionalism of Laboratory Staff.....94%
Advice provided by Telephone.....88%
Clarity of Reports.....81%
Advice provided in Reports.....78%
Content of Reports.....69%

10.7 **Turnaround Times**

The Fife Council service level agreement which is also recognised by the three signatory authorities (Dundee, Angus and Perth & Kinross) requires that 95% of test reports meet agreed target reporting times. Table 3 shows the proportion of the reports issued which met the required turnaround times. The Table also shows that a significant improvement in turnaround times occurred between 1998 - 1999 and 1999 - 2000. The reasons for the improvement are as follows***:-***

10.7.1 The appointment of an additional Public Analyst resulted in the reporting workload being shared and cover being provided in the absence of the Scientific Services Manager.

10.7.2 During 1998/99, two senior members of staff were absent for extended periods (2 months and 4 months respectively) as a result of illness. These absences had a serious negative impact on the laboratory turnaround times. Both these members of staff were fully fit during 1999/2000 resulting in an marked improvement in turnaround time.

Table 3. Reports meeting Target Turnaround Times 1998 - 2000

Sample type	*Target turnaround time (working days)*	*% Satisfactory turnaround time 1998/99*	*% Satisfactory turnaround time 1999/2000*
Informal Foods	40	**83.6%**	**92.0%**
Food Complaints	20	**23.5%**	**67.4%**
Drinking Waters – C1	10	**100%**	**100%**
Drinking Waters – C2	12	**92.6%**	**99.3%**
Drinking Waters – C6	15	**98.6%**	**99.8%**
Food Microbiology	10	**98.7%**	**97.7%**

Table 3 (continued)	Water Microbiology	10	**97.4%**	**98.8%**
	Fertilisers	40	**20.0%**	**100%**
	Feeding Stuffs	40	**64.7%**	**81.2%**
	Toys	25	**9.0%**	**91.3%**
	Ceramics	50	**100%**	**100%**
	NO_2 Diffusion tubes	20	**79.2%**	**96.5%**
	Overall Performance		**89.8%**	**96.1%**

10.8 Costs

The workload unit charge is a means of assigning a cost to the work carried out on samples for Environmental Health and Trading Standards Departments of the Local Authorities.

The time taken for analysis for each of the common sample types submitted to the laboratory for testing has been calculated and assigned a number of workload units. The workload unit is defined as one twentieth of a productive analytical working hour.

The cost per workload unit is calculated by estimating the total number of analytical (available) workload units per annum. The estimated private income of the laboratory is subtracted from the total annual revenue estimate and the resultant sum is then divided by the total number of available workload units to give the cost per workload unit for the year.

The costs per workload unit for the previous two financial years were

1998-1999	*1999-2000*
£3.28	*£3.42*

The increase in the cost per workload unit for the period 1999-2000 compared to that for 1998-1999 was 4.3% which was 2.2% greater than the rate of inflation on 1 April 1999. However, this increase was necessary as there had been no increase in the previous financial year.

10.9 **Accessibility -** Assessment of Customer Satisfaction by Questionnaire

The proportion of responses which rated the accessibility to the service good or very good were as follows:-.

Contact with the Laboratory by Telephone.....91%
Convenience of Location.....88%
Contact with an Individual by Telephone.....76%
Contact with an Individual at the Laboratory.....75%
Telephone Response when Individual is Unavailable.....62%
Opening Hours.....61%

11 COMPARISON

11.1 Benchmarking

A benchmarking exercise was carried out comparing, where possible, turnaround times and costs with figures obtained from the three other Public Analyst laboratories in Scotland – Labs A, B and C.

11.2 Turnaround times

Labs A and C have not set any targets for turnaround times.

Lab A indicated that turnaround time targets likely to be set would be similar to those in Dundee. Lab C indicated that they currently would find it difficult to be able to meet the majority of the Dundee target turnaround times.

Table 4 shows a comparison of satisfactory turnaround times between Dundee Scientific Services and Lab B. This comparison does not take into account different targets set by Lab B.

Table 4. Comparison of turnaround times with Lab B.

Sample Type	% satisfactory turn round time 1998-1999 Dundee	% satisfactory turn round time 1998-1999 Lab B	% satisfactory turn round time 1999-2000 Dundee	% satisfactory turn round time 1999-2000 Lab B
Foods	**75**	**90**	**87**	**85**
Microbiology	**98**	**99**	**97**	**94**
Environment	**87**	**98**	**98**	**90**
Overall	**90**	**97**	**94**	**89**

11.3 **Costs**

One of the critical success factors identified for Dundee Scientific Services was cost per workload unit. Since the other Public Analyst Laboratories in Scotland do not operate a workload unit system, no direct comparison could be made.

As an alternative it was decided to carry out a benchmarking exercise on the cost per sample for the analysis of a "shopping basket" of a variety of sample types. The results of this benchmarking are held in the audit file.

On obtaining sample costs from the other three Scottish Laboratories, it was obvious that there were considerable differences in the costs per sample between the four laboratories. In order to investigate the reasons for these discrepancies, the revenue budgets of the three laboratories were examined. These showed that the basis for financing each of the laboratories varied considerably.

In an attempt to minimise the effects of differences in funding, the costs from the laboratories were recalculated on the basis of the populations serviced.

However, even after this recalculation it was not found possible to make an equitable comparison of costs, due to the differences in methods of funding by other Scottish authorities.

During the current financial year, further work will be carried out by the authorities involved in the benchmarking exercise to rationalise the basis for financing the four Scottish Public Analyst Laboratories. This should enable a more meaningful comparison of costs to be made.

12 OPTIONS APPRAISAL

12.1 **Option 1. -** Competitive tendering with the private sector

No private sector laboratories exist in Scotland which are authorised as food enforcement laboratories. Authorised Food Enforcement laboratories require to be UKAS Accredited to meet the requirements of the Agreement on Standards for Official Food Control Laboratories.

12.2 **Option 2. -** The current service with continuous improvement

In the short term this is the most likely option and proposals for continuous improvement are outlined in paragraph 13.

12.3 **Option 3. -** Integration of the food enforcement laboratories in Scotland as recommended in the Timbury Report on Food Related Scientific Services in Scotland.

This report was commissioned by the Scottish Executive in preparation for the setting up of the Food Standards Agency in April 2000. Networking and integration will inevitably lead to a requirement to rationalise budgets and turnaround times for the four networked laboratories. This will mean that in the future there should be a better chance of being able to make more meaningful benchmarking comparisons for cost and turnaround time.

This option is the one that all food enforcement laboratories in Scotland will be working towards in the medium term and is the subject of a report currently being considered by the Convention of Scottish Local Authorities (COSLA) and the Food Standards Agency.

12.4 Option 2 (current service with continuous improvement) is the recommended option in the short term. Option 3, (structured networking and integration) is the preferred longer term option of the Association of Public Analysts of Scotland.

13 CONTINUOUS IMPROVEMENT PROPOSALS

13.1 Quality

Maintain or improve on the percentage of satisfactory results obtained in Proficiency Testing Schemes. See Table 1.

Extend the scope of UKAS accreditation to increase the proportion of accredited results reported. See Table 2. In the year 2000, it is anticipated that a further eight methods will be added which will result in a significant increase in the number of accredited results reported.

Maintain the existing scope of UKAS accreditation. This includes taking satisfactory corrective actions following the annual surveillance visit by UKAS assessors.

Maintain or improve on the quality of the service as measured in the annual customer questionnaire, with a target of at least 75% of customers rating the service good or very good. See paragraph 10.6.

13.2 Turnaround Times

Meet or improve on the target of 95% of test reports issued within the turnaround times specified in Table 3.

13.3 Costs

Hold the cost per workload unit to the rate of inflation or to the percentage pay award whichever is the greater.

13.4 **Accessibility**

Maintain or improve on the accessibility to the service as measured in the annual customer questionnaire, with a target of at least 75% of customers rating the accessibility good or very good. See paragraph 10.9.

Changes have already been made to improve accessibility. Telephone answering equipment has been installed in the office to take calls outwith opening hours and when staff are unavailable. Personal access has been improved by extending office hours to provide continuous opening from 0830 hours to 1700 hours.

14 CONSULTATION

14.1 The Directors of Personnel & Management Services and Finance were consulted on this report.

The Heads of the three other Public Analyst's Laboratories in Scotland were also consulted.

15 BACKGROUND PAPERS

15.1 *Review of Food Related Scientific Services in Scotland*
Professor M. Timbury 1998.

Service Level Agreement with Fife Council 1999.

ISO/IEC 17025 : 1999 *General Requirements for the Competence of Testing and Calibration Laboratories*.

Agreement on Standards for Official Food Control Laboratories between UKAS, MAFF and DoH 1999.

EU Directive No. 89/397/EEC: *Official Control of Foodstuffs*.

EU Directive No. 93/99/EEC: *Additional Measures concerning the Official Control of Foodstuffs*.

16 ABBREVIATIONS AND ACRONYMS USED

DoH	Department of Health
MAFF	Ministry of Agriculture Fisheries and Food
PT	Proficiency Test
UKAS	United Kingdom Accreditation Service.

Chief Executive Date: