

Environment Agency

National Compliance Assessment Service

1998/1999 Annual Report



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## NATIONAL COMPLIANCE ASSESSMENT SERVICE

### ANNUAL REPORT: 1998/99

#### FOREWORD BY THE CUSTOMER BOARD CHAIRMAN

The NCAS provides essential support on compliance assessment activities as part of the Agency's regulatory functions under environmental protection legislation.

During the course of 1998/99 much effort was put into developing the role and organisational structure of the Service and progressing job descriptions for HAY assessment and recruitment to fill the large number of vacancies.

Against this background of lack of staff resources a considerable workload was progressed and notable achievements made including:

- ◆ launching MCERTS in April 1998 for the product certification of instruments for measuring chimney stack emissions
- ◆ further developing MCERTS to cover other monitoring activities
- ◆ improving the performance of stack monitoring contractors
- ◆ successfully implementing the revised radiological monitoring programmes
- ◆ carrying out site investigations and trials
- ◆ providing a Monitoring Help Desk
- ◆ publishing 7 reports
- ◆ providing the Agency's Annual Report: Radioactivity in the Environment to timetable

This report presents a year-end summary of work undertaken during 1998/99 focussing on these particular achievements and identifying the challenges the NCAS faced in implementing its Business Plan in full.

P Leinster  
Director Environmental Protection  
Chairman NCAS Customer Board

## CUSTOMER BOARD REPORT

### Membership and Meetings

- 1 Membership of the NCAS Customer Board comprises representatives from Operations, Finance, Environmental Protections and Environmental Strategy Directorates. The full membership is listed at Annex 1.
- 2 Meetings were held on 19 May 1998, 7 October 1998 and 12 March 1999. A list of the papers discussed is at Annex 2.
- 3 The Board monitored and directed the on-going work of the NCAS including:
  - ◆ confirming the 1999/00 Business Plan
  - ◆ approving proposed arrangements for the transfer of IPC waste water monitoring work from NCAS managed contractors to the regions and NLS
  - ◆ approving the 1997/98 Annual Report
  - ◆ reviewing the performance of contractors carrying out stack emissions monitoring
  - ◆ approving, with amendment, proposed arrangements for consulting on proposals to extend MCERTS to manual stack emissions monitoring

### SUMMARY OF THE YEAR

- 4 The initial budget allocation for 1998/99 was £6,837k. A detailed breakdown is provided at Annex 3. The major business activities identified in the Business Plan were:
  - ◆ Compliance monitoring programmes
  - ◆ EURATOM monitoring programmes
  - ◆ Site specific trials and investigations
  - ◆ Partnership programmes
  - ◆ Monitoring Help Desk
- 5 Progress as measured by the quantified and time specific targets, and performance measures in the Business Plan is summarised at Tables 1a and 1b.

### Compliance Monitoring Programmes

#### *RAS Monitoring*

- 6 All three programmes covering effluent analysis, quality checking of solid waste disposals and environmental monitoring continued to run satisfactorily. Results from the programmes confirmed that:
  - ◆ Discharge returns submitted by nuclear site operators were generally satisfactory. However, some difficulties with drawing meaningful comparisons between operators results and the effluent analysis programme were identified and are being investigated.
  - ◆ Disposals of solid radioactive waste to the BNFL operated Drigg landfill site

conformed with disposal authorisations except for the presence of aerosol canisters and free liquids. Site operators were required to improve their on-site waste handling procedures.

- ◆ Radiation exposures of the public from the impact of authorised discharges on the environment remained similar to previous years and substantially less than the internationally recommended dose limit.

- 7 The Agency's Annual Report "Radioactivity in the Environment" which provides a summary and radiological assessment of the programmes was issued on time for the Autumn Sellafield Local Liaison Committee meeting. It reports the effectiveness of the Agency's regulatory controls under RSA '93 on protecting the environment from the impact of radioactive discharges. Although the report is already widely distributed with about 2000 copies going to local authorities in England and Wales, Government Departments and local liaison committees, there has been a demand for more copies from other local liaison committees, Water UK and interested members of the public.

#### *IPC Monitoring*

- 8 Agency independent monitoring of releases from IPC authorised process is a key element of exercising satisfactory regulatory control and protection of receiving environments. The data provides evidence of compliance and checks on operators' self-monitoring arrangements, often identifying inadequacies.
- 9 Closer management of all the programmes was achieved, following the appointment of professional programme managers. Considerable effort has been devoted to the introduction of programmes for monitoring 250 Organic Chemicals processes. This proved to be extremely complex and required 2 post tender consultation exercises with site inspectors on scope and costs. The remaining outstanding programme for 'Chapter 6 Miscellaneous Processes' has been progressed with contract award expected in July.
- 10 New programme tracking systems were implemented for the provision of hard data on contractor progress. Across the board improvements in contractor performance were achieved. However the contract with Symonds Travers Morgan (STM), whose performance on the Minerals Industry programme failed to improve, had to be terminated early.
- 11 Routine monitoring on several lead acid battery plants in Wales revealed higher emissions of lead than those being reported by operators. Follow up work confirmed systematic differences and operators results over the last 10 years are suspect and their monitoring methods will have to be changed.
- 12 Similarly routine monitoring of HCl emissions have confirmed site inspectors concerns over the reliability of several operators results. A study has been commissioned to investigate the observed anomalies.

## Euratom Programmes

- 13 The two routine programmes for monitoring radioactivity in air and rainwater, and in drinking water sources managed by the NCAS on behalf of DETR have continued to operate satisfactorily. Replacement contracts which came into effect on 1 January 1999 were awarded following successful competitive tendering. Cost savings of about £65k per annum were achieved.
- 14 The air monitoring programme confirmed that the elevated concentrations of Cs-137 in air being reported in Poland during the weeks 16 November to 7 December 1998 were not leading to detectable levels in the UK atmosphere. As a consequence of this information and advice from the RIMNET team no special arrangements for emergency response were made by the Agency.

## Site Specific Investigations/Trials

- 15 Considerable effort was deployed on the following studies
- ◆ *Organically Bound Tritium (OBT):* Close support to the OBT Working Group continued. Monitoring of OBT in effluent discharges, sediment, flora and fauna was carried out mainly in the Bristol Channel as a result of concerns about discharges from Nycomed Amersham at Cardiff but also farther afield. This monitoring discovered unexpected elevated concentrations of OBT in sediments in the Sellafield area. A major investigation is continuing to identify the sources and understand the significance of the findings.
  - ◆ *Industrial Radioactive Emissions:* An assessment of all monitoring data related to stack emissions of Pb-210 and Po-210 from British Steel sinter plants has confirmed that authorisation under RSA'93 is necessary. A Technical Report has been issued.
  - ◆ *Castle Cement, Clitheroe:* Contract staff were provided to NW Region Central Area to provide 24 hour cover in Clitheroe in support of site inspectors. These staff are responding to incidents reported by local residents, investigating complaints of haze and odour and conducting routine patrols. This work is expected to continue to several months.
  - ◆ *Dudley Soil Survey:* A survey of dioxins in soil carried out on behalf of Midlands region around an old MWI supported by an internal NCAS dispersion modelling assessment showed that emissions had resulted in elevated levels in a small area down the prevailing wind. A report is being readied for publication.
  - ◆ *Petrus Oils (Interline):* An extensive ambient air monitoring survey was undertaken around this works at the request of Midlands region. The survey supported regulatory activities by the site inspectors which led to contentious enforcement action. The NCAS became concerned about certain technical aspects and the growing costs of this survey and following discussions with Midlands region the work was eventually stopped.

## Partnership Programmes

- 16 *MCERTS*: The most significant partnership programme continued to be the development of the Agency's Monitoring Certification Scheme: MCERTS. This Scheme has been established to promote quality monitoring data based on international standards. Key developments were:
- ◆ the public launch of MCERTS at the international conference CEM'98 on 22 April as 'open for business' for the product certification of industrial stack emissions monitoring instruments. This was the culmination of nearly 3 years partnership work with GAMBICA: the UK's trade association for instrument manufacturers.
  - ◆ the preparation of performance standards, laboratory and field conformance testing procedures for the inclusion of ambient air monitoring instrumentation.
  - ◆ the preparation of a consultation document on proposals to extend the Scheme to manual stack emissions monitoring by establishing a Register of MCERTS qualifying personnel and monitoring organisations.
  - ◆ successful discussions with GAMBICA about joint funding of work to extend MCERTS to incorporate water monitoring systems including addressing the needs of the UWWTD.
- 17 *ECSC project on PM<sub>10</sub> measurement* – The programme was extended to include a survey of the relative concentrations of PM<sub>10</sub> emissions from a broad range of UK industrial processes. The range of instruments being tested has also been extended by inclusion of an in-stack TEOM which potentially provides an exciting revolutionary approach to this difficult monitoring application. It will be tested at a number of the processes to demonstrate/investigate its effectiveness.
- 18 *Endocrine disrupters*: The Environment Agency consultative report "Endocrine-disrupting substances in the environment: What should be done" highlights the lack of reliable information on the levels for many reported endocrine-disrupting chemicals, and identifies the need for the development of analytical methods for the detection of substances that may be present at low concentrations in environmental media. Agency sponsored research has identified three such endocrine-disrupting substances, namely oestrone, 17 $\beta$ -oestrone and ethinyl oestrone as principal oestrogenically active substances. To underpin properly targeted research and monitoring programmes, reliable methodology needs to be established. In view of the active interest shown in this area by the Agency and other organisations, in particular the Drinking Water Inspectorate and UKWIR, a collaborative exercise is being undertaken to establish reliable methodology for the determination of these three steroids in a variety of matrices, including treated water, river water and sewage effluents. Once reliable methodology has been established, the monitoring and surveillance of priority chemicals can be developed for managing water resources, preventing and controlling discharges of effluents containing steroids, and freshwater fisheries.

19 Other partnership programmes included:

- ◆ three on-going EC sponsored jointly funded projects on development of techniques for the checking of radioactive solid wastes
- ◆ a jointly funded study with WIRG to assess emergency screening levels and analytical methodologies for radioactivity in potable water in support of the Agency's arrangements for responding to radioactive emergencies.

**Monitoring Help Desk**

20 Responding to queries from field officers continued to be a major activity. The provision of this service was underpinned by participation in external developments and several supporting studies including:

- ◆ the work of the Standing Committee of Analysts (SCA) managed by the NCAS
- ◆ involvement in ISO and CEN technical groups developing a range of Standard analytical, sampling and instrumental monitoring methods
- ◆ the preparation of Technical Guidance Notes (TGNs) and Technical Reports (TRs)

21 A significant contribution was made to the drafting of the monitoring requirements of the Waste Fuel Protocol for cement and lime kiln trials.

**Publications**

22 Seven reports were published during 1998/99 and drafts of a further eight were the subject of external consultation. The reports included:

- ◆ Radioactivity in the Environment: Annual Report for 1997
- ◆ TR: A Review of the Use of Continuous Monitoring Systems: Metals Industry Processes
- ◆ Radioactivity in Air and Rainwater: UK Results to the End of 1997 (DETR Report)
- ◆ MCERTS: Performance Standards for Continuous Emissions Monitoring Systems
- ◆ IMPEL Network: Operator Self Monitoring
- ◆ TGN M10: Manual Measurement of Particulate Emissions
- ◆ TR: Radioactivity in Stack Emissions from Steel Works
- ◆ Draft TGNs
  - M8: Ambient Air Monitoring Strategies
  - M9: Ambient Air Monitoring Methods
  - M11: Monitoring of Atmospheric Radioactive Releases from Nuclear

#### Facilities

- M12: Monitoring of Radioactive Releases to Water from Nuclear Facilities
  - M13: Monitoring Hydrogen Sulphide and total Reduced Sulphur in Atmospheric Emissions and Ambient Air
  - M14: The Assessment of Fugitive Emissions from Coke Ovens
- ◆ Draft TR: Decay of Th-234 and daughter Pa-234m in secular equilibrium: Resolution of observed anomalies
  - ◆ Draft SCA Blue Book: "The isolation and identification of *Cryptosporidium* oocysts and *Giardia* cysts in waters 1999"

#### External Representation

23 Papers on MCERTS, RAS Monitoring, IPC Monitoring, Standards Work and Reporting Formats were presented on the following occasions:

- ◆ Industrial Air Pollution Course, Leeds University
- ◆ Training Course on Monitoring, CRE Group Ltd, Cheltenham
- ◆ CEM'98, Teddington
- ◆ Environmental Industries Commission seminars: 5 off
- ◆ SWIG Meeting: "Accreditation of on-line Measurements"
- ◆ UMIST MSc Environmental Management and Technology

#### RESOURCE SUMMARY

##### Financial Outturn Against Budget

24 The 1998/99 NCAS opening budget was £6,837k. Revisions were made as expenditure was reviewed to £4,221.6k in November 1998 and £4,082.8k in February 1999.

25 End of year expenditure was £4,119.7k equivalent to 60% of the opening budget. This lower than expected expenditure was largely accounted for by:

- ◆ delays with filling vacant posts resulting in
  - non-introduction of the Organic Chemicals process sector programmes
  - non-introduction of a number of minor contracts
- ◆ expenditure less than forecast on site investigations
- ◆ expenditure less than forecast due to delays in progressing some monitoring programmes

## **Income**

- 26 Income from RSA'93 direct charges at £834.3k was less than expenditure on RAS monitoring programmes of £939.6k because of the reconciliation from 1997/98.
- 27 Income from IPC direct charges of £1,755.3k exceeded expenditure of £1,602.8k on routine monitoring due to the reconciliation from 1997/98.

## **Staff Resources**

- 28 The NCAS started 1998/99 with a complement of 16 FTEs, with 11 permanent staff and 3 temporary staff in post. Two permanent staff members transferred to regions during the course of the year. Temporary staff were recruited to back fill these posts and meet increasing demands on the compliance monitoring team. The total number of permanent plus temporary staff in post at the year-end was 19.

## **Environmental Performance**

- 29 Permanent members of staff achieved an overall mileage reduction of 24% on the previous year. Taking mileage attributable to temporary staff into account the overall reduction was 12%.
- 30 During the course of the year monitoring contractors were required to have Health & Safety and Environmental policies in place and encouraged to take management action to minimise the environmental impact of their operations.

NCAS  
May 1999

## ANNEX 1: NCAS CUSTOMER BOARD MEMBERSHIP

Chairman:	Director Environmental Protection	Paul Leinster
	Head: RAS Regulation	Allan Duncan
	RGM North East	Roger Hyde
	RGM North West	Justin McCracken
	Area Manager (Wales)	Roy Fowles
	Anglian Region EP Manager	Mick Pearson
	Environmental Strategy	Alastair Ferguson
	Head: Regulatory Support	John Burdett
	HO Finance	Gillian Pratt
	NW Finance	Chris Bent
	NW EP Manager	Jeremy Frost
	Head: NLS	David Gelsthorpe
	Head: NCAS	Stuart Newstead
	NCAS Manager: Compliance Monitoring Programmes	Ormonde Joel
Secretary:	NCAS Manager: Integrated Monitoring Strategy	John Tipping

### Notes

- 1 Martin Mills (SE Area Environmental Planning Manager, Environment Agency Wales) substituted for Roy Fowles on 12 March 1999.
- 2 Dave Balmer (Accountant NWR Finance) substituted for Chris Bent on 12 March 1999.

**TABLE 1a: PROGRESS SUMMARY - TARGETS AND PERFORMANCE MEASURES**  
**QUANTIFIED/TIME SPECIFIC TARGETS**

<ul style="list-style-type: none"> <li>• Establish/launch MCERTS in April 1998.</li> <li>• Introduce replacement EURATOM/DETR contracts for public drinking water supplies, and radioactivity in air and rainwater by April and July 1998 respectively.</li> <li>• Introduce replacement Fuel and Power contract by June 1998.</li> <li>• Introduce three new programmes for the chemicals industry by 1 July 1998.</li> <li>• Issue the Agency report "Radioactivity in the Environment Report for 1997" in pre-publication format by October 1998 with formal publication by December 1998.</li> <li>• Provide RSA charging information to the ARC within 10 days of the quarter end.</li> <li>• Provide IPC charging information to the ARC by June each year.</li> </ul>	<ul style="list-style-type: none"> <li>- Completed on schedule with launch at CEM'98 on 22 April 1998.</li> <li>- New contracts started October 1998.</li> <li>With programmes commencing January 1999.</li> <li>- Contract awarded October 1998, monitoring started November 1998.</li> <li>- Competitive tendering completed, start for new programmes delayed to January 1999.</li> <li>- Deadline for pre-publication format met. Formal publication delayed to March 1999.</li> <li>- Completed to schedule.</li> <li>- Completed to schedule.</li> </ul>
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**PERFORMANCE MEASURES**

<ul style="list-style-type: none"> <li>• Percentage of results reports submitted within 6 weeks of testing.</li> <li>• Percentage of tests to programme.</li> <li>• Percentage of spend to budget.</li> <li>• Number of ad-hoc/reactive tests completed.</li> <li>• Number of monitoring help desk queries resolved.</li> <li>• Number of technical reports issued.</li> <li>• Number of charging queries answered.</li> </ul>	<ul style="list-style-type: none"> <li>)</li> <li>)</li> <li>) See Table 1b.</li> <li>)</li> <li>)</li> <li>Statistics no longer collected.</li> <li>7</li> <li>148</li> </ul>
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TABLE 1/b

MONITORING PROGRAMMES STATISTICS 1998/99

Results reported within 6 weeks	Aug-Oct	Nov-Jan
	46%	68%

Percentage of spend to budget	
work performed	86%
invoices approved	78%

	RAS	IPC	Total
Non routine monitoring: Number completed	45	42	87
Routine monitoring: Number completed	1645	403	2048

Operator self monitoring arrangements	
Number of audits	23
Number of findings	70

Number of non-compliance's determined by Agency independent monitoring	TBA
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**ANNEX 2: LIST OF CUSTOMER BOARD PAPERS DISCUSSED DURING 1998/99**

<b>Paper Number</b>	<b>Customer Board Date</b>	<b>Paper Title</b>
NCAS/CB/98/01	May 1998	NCAS 1997/98 Year-End Report
NCAS/CB/98/02	May 1998	NCAS 1998/99 Interim Progress Report
NCAS/CB/98/03	May 1998	IPC Waste Water Monitoring
NCAS/CB/98/04	May 1998	Proposals for Improved Technical and Financial Control of IPC Related Monitoring Projects
NCAS/CB/98/05	May 1998	An Appraisal of IPC Monitoring (Presentation)
NCAS/CB/98/06	May 1998	Migration Plan – Staff-in-Confidence
NCAS/CB/98/07	October 1998	NCAS 1997/98 Annual Report
NCAS/CB/98/08	October 1998	NCAS 1998/99 Second Interim Progress Report
NCAS/CB/98/09	October 1998	NCAS Draft Business Plan
NCAS/CB/98/10	October 1998	NCAS External Commitments
NCAS/CB/98/11	October 1998	IPC Waste Water Monitoring
NCAS/CB/98/12	October 1998	Role of the Standing Committee of Analysts
NCAS/CB/98/13	October 1998	Contractor Performance
NCAS/CB/99/14	March 1999	NCAS 1998/99 Third Interim Progress Report
NCAS/CB/99/15	March 1999	Stack Emission Monitoring Review
NCAS/CB/99/16	March 1999	Proposal for a NCAS Client Group
NCAS/CB/99/17	March 1999	MCERTS: Manual Stack Emissions Monitoring

ANNEX 3: 1998-98 BUDGET/EXPENDITURE

Expense Type	Original Budget	Revised Budget (end Nov)	Revised Budget (mid Feb)	IAS Expenditure as at 31/3	% Spend on Feb Budget (IAS)
Salaries	620	410	410	405.6	99%
Agency Staff	15	265	354	243.5	69%
T&S	70	50	50	30.8	62%
Other (including Training)	15	15	11	5.7	52%
<b>Sub-Total Staff Costs</b>	<b>720</b>	<b>740</b>	<b>825</b>	<b>685.6</b>	<b>83%</b>
Consultancy	236	5	5	121.4	2428%
Contracts	5704	3320	3100	3220.7	104%
Office Equipment	15	20	20	12.7	64%
Furniture etc	5	12	12	11	92%
Books etc	5	7	7	6.8	97%
Printing etc	97	55	51.2	17.8	35%
Telephone	12	5	5	3.8	76%
Hospitality	5	2	2	1.1	55%
Rent & Rates	30	31.6	31.6	33.7	107%
Other	8	4	4	5.1	128%
Recharge (NLS)	0	20	20	N/k	N/a
<b>Sub-Total Other Costs</b>	<b>6117</b>	<b>3481.6</b>	<b>3257.8</b>	<b>3434.1</b>	<b>105%</b>
<b>Total Expenditure</b>	<b>6837</b>	<b>4221.6</b>	<b>4082.8</b>	<b>4119.7</b>	<b>101%</b>

ANNEX 3: 1998-98 BUDGET/EXPENDITURE: DIRECT FUNDED AND OTHER WORK

Expense Type	Directly Funded		Other Work		Total Expenditure
	Budget	Expenditure	Budget	Expenditure	
Salaries	245.9	116.5	374.1	289.1	405.6
Agency Staff	5.9	307.5	9.1	42.2	349.7
T&S	27.8	18.5	42.2	12.3	30.8
Other (including Training)	6.0	3.5	9.0	2.2	5.7
<b>Sub-Total Staff Costs</b>	<b>285.6</b>	<b>446.0</b>	<b>434.4</b>	<b>345.8</b>	<b>791.8</b>
Consultancy	223.8	9.2	12.2	6.0	15.2
Contracts	4,609.3	2,542.4	1,094.7	678.3	3,220.7
Office Equipment	5.9	7.6	9.1	5.1	12.7
Furniture etc	2.0	6.6	3.0	4.4	11.0
Books etc	2.0	4.1	3.0	2.7	6.8
Printing etc	0.0	1.8	97.0	16.0	17.8
Telephone	4.8	2.3	7.2	1.5	3.8
Hospitality	2.0	0.7	3.0	0.4	1.1
Rent & Rates	11.9	20.3	18.1	13.4	33.7
Other	3.2	3.1	4.8	2.0	5.1
Recharge (NLS)	0.0	0.0	0.0	0.0	0.0
<b>Sub-Total Other Costs</b>	<b>4,864.9</b>	<b>2,598.0</b>	<b>1,252.1</b>	<b>729.9</b>	<b>3,327.9</b>
<b>Total Expenditure</b>	<b>5,150.9</b>	<b>3,044.0</b>	<b>1,686.5</b>	<b>1,075.7</b>	<b>4,119.7</b>