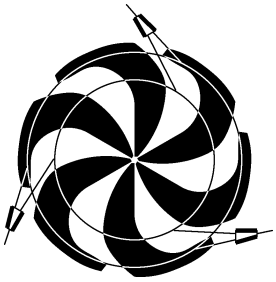
# TRIUMF



# ANNUAL REPORT
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**CANADA'S NATIONAL LABORATORY**
**FOR PARTICLE AND NUCLEAR PHYSICS**

OPERATED AS A JOINT VENTURE

MEMBERS:

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THE UNIVERSITY OF BRITISH COLUMBIA
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SIMON FRASER UNIVERSITY
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THE UNIVERSITY OF TORONTO

UNDER A CONTRIBUTION FROM THE
NATIONAL RESEARCH COUNCIL OF CANADA

OCTOBER 2002

*The contributions on individual experiments in this report are outlines intended to demonstrate the extent of scientific activity at TRIUMF during the past year. The outlines are not publications and often contain preliminary results not intended, or not yet ready, for publication. Material from these reports should not be reproduced or quoted without permission from the authors.*

# ADMINISTRATION DIVISION

## INTRODUCTION

The Administration Division is made up of Human Resources and Administration, Accounting and Materials Control, Administrative Computing, and Safety. The manager of each group reports to the Director. A summary of Division activities is included in this report.

## HUMAN RESOURCES AND ADMINISTRATION

All employees are reviewed for performance on an annual basis. The period covered for Performance Planning and Review was changed this year to coincide with the calendar year. Reviews will be completed in early 2002 and cover the 18 month period ending December 31, 2001. A number of Personnel Policies and Procedures, applicable to all employee groups, were approved by the TRIUMF Board of Management for implementation.

Work continues on a system to keep track of both short term and long term visitors. It is expected to be completed in 2002 and will enable TRIUMF management to be able to account for all visitors on site. All visitors will be recorded in a database, which will keep track of data such as their home institution, length of stay, contact person at TRIUMF, radiation badge, and keys issued.

The insurance program was renewed with a small increase in premium from the previous year and third party liability coverage remains at $50 M. All buildings operated by TRIUMF are owned by the University of British Columbia and insurance coverage for these buildings and contents is provided by the Canadian Universities Reciprocal Insurance Exchange (CURIE).

Site security has been reviewed. A proposal is being prepared for management which will include the installation of motion detectors with cameras, as well as a card system for access behind the security fence. Security guard coverage has increased and all vehicles accessing the site behind the security fence are required to have a permit.

Negotiations with UBC for the construction of the ISAC-II building were successfully concluded. A contract for site preparation was awarded and construction is expected to start in March, 2002.

McMaster University became an Associate Member of the Joint Venture effective October 1, 2001. There are currently five full member and six associate member universities in the Joint Venture. Each full member university has two voting members on the Board of Management. Two additional voting members are appointed by the Board from the private sector. The associate members each retain one non-voting member on the Board.

TRIUMF must now comply with Federal Treasury Board requirements under a Results-based Management and Accountability Framework. The purpose of this framework is to establish a mechanism to help the National Research Council and TRIUMF: i) collect performance information related to this initiative; ii) track delivery of commitments and reporting; iii) describe how the success of TRIUMF will be evaluated over time; and iv) provide direction for on-going and future planning.

## OPERATIONAL SAFETY

### Licensing

The application for the new TRIUMF operating licence that was submitted to the Canadian Nuclear Safety Commission (CNSC) received its first hearing on December 13, 2001. The second hearing is scheduled for February 28, 2002. This licence will cover the operation of all cyclotrons at TRIUMF as well as that of ISAC-I. Applications were submitted for licences to construct the new TR30 cyclotron and ISAC-II. Each of these applications was accompanied by a safety analysis report that included an analysis of the hazards and the design features of each facility that would mitigate these hazards.

### Training

A renewed emphasis has been put on the training of accelerator operators at TRIUMF. The safety training coordinator was assigned to assist in the development and documentation of the training program for the four groups of operators: the 500 MeV Cyclotron Operations, the Applied Technology Group, ISAC Operations, and the TR13 Operators. The goal is to develop these programs following the Systematic Approach to Training. The design will try to identify training modules that may be common to the training of all operators so as to avoid duplication of effort.

### Occupational Health and Safety

All aspects of the occupational health and safety program continued to run smoothly. Regular inspections of the fire alarm and sprinkler systems were scheduled. The TRIUMF Accident Prevention Committee continued its program of regular site inspections. A new housekeeping task force was established with oversight responsibility for ensuring that all housekeeping issues receive prompt attention.

### Interlocks and Monitoring

The work to improve the reliability of the radiation monitoring systems for the 500 MeV cyclotron continued this year. A number of features that improved the frequency of testing of the various components of the system were implemented. The documentation of all stages of the specification and design of the systems was completed following the protocol that has been developed for quality assurance of safety systems.

The radiation monitoring system for ISAC was extended to include the accelerator system and the high-energy beam lines, as well as the changes implemented in the low energy lines. The DTL shielding enclosure was interlocked so as to prevent access when the accelerator is in a state that might generate X-ray fields. In the target maintenance hall the target storage facility was included in the access control interlock system. Design efforts were started to provide adequate interlocks for the operation of the east target station.

Specifications were written for the new TR30 cyclotron access control interlock system and radiation monitoring system. The decision was made to have the construction of these systems contracted out to off-site suppliers.

### Personnel Dosimetry

The program that tracks the readings entered by users of the direct reading dosimeters was moved from the VAX cluster to the Controls cluster after support for the VAX cluster was withdrawn. The program was also upgraded to allow multiple sign-out stations. This allowed ISAC to establish a dosimeter sign-out station in the ISAC experimental hall. The collective dose for TRIUMF personnel for the year 2001 was 321 mSv as measured by the direct reading dosimeter service. This dose is approximately 5% lower than the previous year. Table XXXIV shows the breakdown of the collective dose by various work groups.

Table XXXIV. Collective dose for TRIUMF personnel by group.

| Group | Dose (mSv) | Fraction of Total (%) | Median (mSv) |
|---|---|---|---|
| Applied Technology | 96.2 | 30.9 | 4.6 |
| Safety Group | 26.8 | 8.3 | 0.6 |
| Tech Support | 25.1 | 7.8 | 1.8 |
| 500 MeV Operations | 23.0 | 7.2 | 0.8 |
| Life Sciences | 22.3 | 6.9 | 1.2 |
| Remote Handling | 19.6 | 6.1 | 1.9 |
| Vacuum Group | 15.4 | 4.8 | 1.3 |
| Beam Lines/Probes | 13.2 | 4.1 | 3.0 |
| Plant Group | 12.2 | 3.8 | 0.4 |
| Outside Contractors | 11.2 | 3.5 | 0.1 |
| ISAC Operations | 10.9 | 3.4 | 0.5 |
| RF Group | 4.4 | 1.4 | 0.7 |
| ISIS | 2.4 | 0.7 | 0.3 |
| Others | 38.3 | 11.9 | –.– |
| Total | 321.0 | 100.0 | 0.3 |

## ADMINISTRATION COMPUTING AND COMMUNICATIONS

### Management Information Systems

MIS development continued in many areas in 2001; of particular note were changes relating to HR, the site directory, and the administration Web server.

In HR, a new database structure and set of applications were put into use to record organizational positions and appointments. This database should provide improved control of HR budgets, and also makes the organizational structure of TRIUMF available in a computerized form.

An LDAP (lightweight directory access protocol) directory has been set up that includes all TRIUMF employees. This directory can be used as a central e-mail and telephone directory for PC clients, and also includes some organizational information from the HR position, appointment, and employment databases. It is planned that this directory will be expanded to include visitors to TRIUMF.

Development has also continued on the administration Web server http://admin.triumf.ca. Of particular note are the implementation of a "personalized portal", which provides access to data that is tailored to each user; improvements in the Purchasing area to enable generalized searching through the full PO database; Web database applications to publish the TRIUMF Calendar of Events, Room Bookings, Travellers and Visitors list, and TRIUMF's management structure. The personalized portal was tested as a means for account holders to prepare budget submissions on-line for the 2001–02 budget year, and it is expected that this will become the preferred method for budget submissions in the future.

### Word Processing Systems

The major change in word processing systems in 2001 was that many PC users migrated to the Windows 2000 platform, which supports the most current versions of the various application suites in use at TRIUMF (from Microsoft, Corel, and IBM/Lotus). These Windows 2000 PCs are configured to use the administration AS/400 as a Windows file-and-print server. This server was also set up to provide file-and-print services to the site Citrix server and OS/2 clients, which allowed all administration users to be consolidated on a single server and share files, regardless of client platform (Windows 2000, OS/2 Warp, or Networkstation).

**Telephones**

The site telephone system operated nearly flawlessly in the 2001 calendar year. The central switch, which had reached its full capacity at the end of 2000, was expanded to allow for expected growth. The switch software was also upgraded to the most recent release level; the software previously installed was no longer supported by the software vendor.

The number of telephone lines used for incoming dial-up was reduced from 22 to 18, due to a reduction in usage that is due to users moving to high-speed Internet access at home. It is likely that this trend will continue over the next few years.