Bulletin
of the Rutherford Appleton Laboratory
31 Aug 1983 No.13

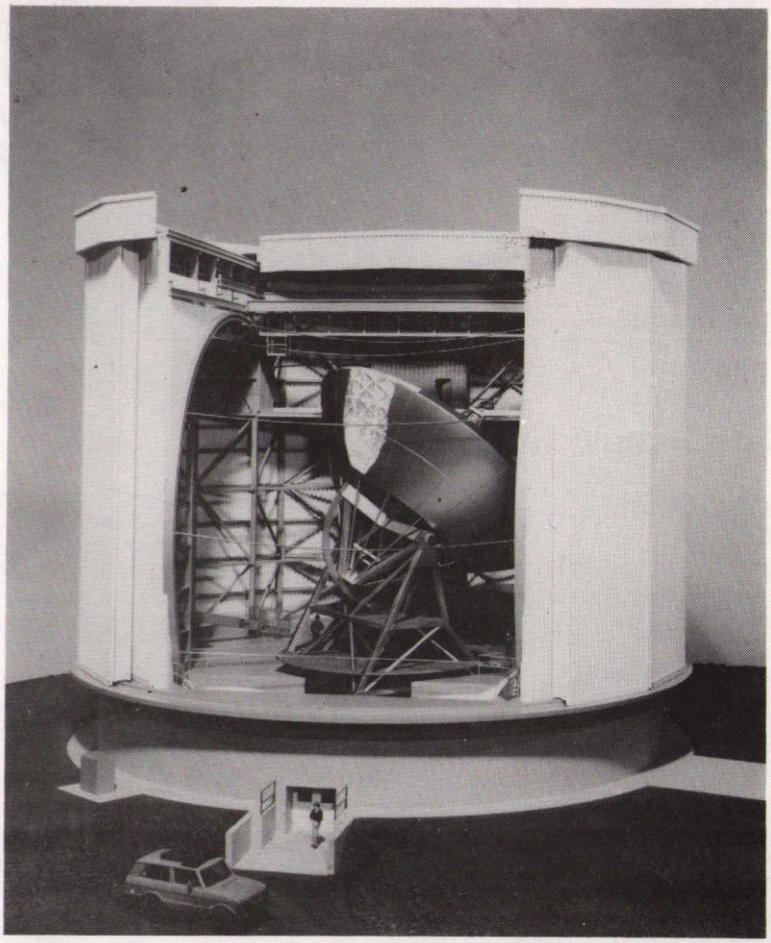
A Hawaiian Blessing

In April of this year the Council Works Unit (part of Eng & Bldg Works Div) placed two major contracts valued at a total of approx £4M for construction of the Millimetre-Wavelength Telescope Enclosure.

When complete the enclosure will be 26 metres high and will have a diameter of 32 metres on plan. The top 23 metres of the enclosure will be a steel structure weighing in the region of 400 tonnes. This portion will rotate to follow the movements of the 15m diameter telescope.

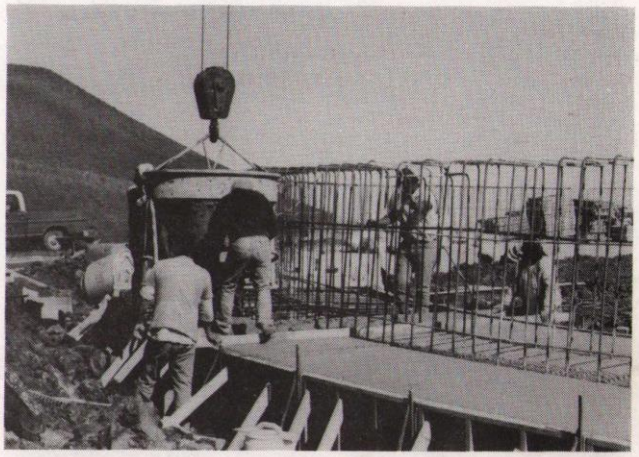
By any standards the enclosure is a complicated and unusual project. The rotating part of the building, known as the carousel, is being manufactured in Bolton by Messrs Robert Watson & Co Ltd. It will be trial erected at their works in October/November of this year, prior to shipment to its final destination of Hawaii.

Meanwhile on the mountain of Mauna Kea (at an altitude of 4081m), in Hawaii, work is underway to build the foundation onto which the Carousel will be erected. This work is being carried out by a local building contractor, Rierson Construction.



How the enclosure will look when completed. (83FC 3699)

The concrete batching plant above the clouds at 3660m altitude.



The contractors pouring part of the Carousel ring beam foundation.

(over)

Hawaiian Blessing *(cont'd)*

After the Ground Breaking Ceremony on April 13 *(Bulletin No 6 1983)* bulldozers moved onto the site and excavations were complete by the middle of May. The first concrete was poured on June 16 and by the end of July half of the total 700 cubic metres of concrete had been poured. This is equivalent to approximately 840 tonnes of concrete already in place. Concrete work is expected to be completed by the end of September before the weather closes in and prevents any further civil work on the mountain.

Messrs Robert Watson are programmed to erect the Carousel on the mountain in 1984 and Rierson Construction will complete the final fitting-out in 1985, prior to the installation of the telescope.

Currently all work is on schedule and the blessing ceremony on the project and all those who work on it, appears to be having the desired effect.

This general view of the site shows the central telescope foundation, to the left, with the Carousel foundation ring beam around.

The Simple Solution

from Derek

Derek Morrow of Chemical Technology Group has just received the largest award ever presented at RAL, under the SERC's Suggestion Award scheme - £1000!

The presentation of the award by Gordon Walker (head of Instrumentation Division) took place on Friday 5 August, and was for Derek's suggestion for an improved method of shaping Aeroweb for the Millimetre Wave Telescope.

The telescope, which will be the finest of its kind in the World, fills the gap between optical and radio telescope and will be used to study stars in their very early state, as clouds of cold gases. It is not a simple thing to build and, Dr Walker paid tribute to the project and design teams involved.

The panels which will form the surface of the antenna are of a skinned sandwich structure, the core of which is aluminium Aeroweb honeycomb material. They have a 4 metre spherical radius on one face and were initially machined under outside contract. Derek's suggestion was for press forming the honeycomb.

Using an existing former, tests employing various forming tools were carried out in the Resin Lab, which confirmed the feasibility of the method. Its adoption has produced panels a factor of 2 better than the design tolerance, with the advantage that they can be produced on site, involving material costs only, eliminating cutting-fluid contamination, giving greater accuracy, and all very simply.

Dr Walker made it clear that the suggestion did not fall within Derek's normal duties, and that despite his training and experience he would not have been expected to think along these lines. However RAL PTOs will continue to surprise.

Derek is interested in motor racing and intends to use some of the money to rebuild his Lotus car.

and from Paul

Meanwhile down in SNS, grey matter had been stiring over the question of reclaiming the aluminium diamond vacuum seals, used in various parts of the SNS vacuum system.

When a set of these used seals became available Paul Smith decided that he could perfect a method of machining these seals to enable their re-use. To this point it had been thought that the material would work harden enough to prevent them being reliable but Paul's method proved very successful.

THe jig he designed can be adapted for various sizes of seal and can be used in any general machine shop. It is possible that seals can be re-claimed up to four times by this method. So far it has saved the necessity for the purchase of 20 of these seals in the current year.

Paul received an interim award of £635 under the Suggestions Award Scheme, there may even be more to come.

Sales to Employees

Sales of scrap metal and plastics will take place, subject to the usual conditions on 9 and 23 September at the R40 Scrap Compound from 12-12.30pm.

Computing Seminars

The Autumn Programme of Seminars will start on Tuesday 6 September at 3.15pm in the Colloquium, Atlas Centre.

STARLINK
by
P T Wallace

The Starlink Project was set up by the SERC in 1979 to provide astronomers throughout the UK with facilities for the interactive reduction and analysis of astronomic observations, with an emphasis on image processing. The approach chosen, a wide area network of VAX minicomputers, has proved to be highly successful. A large collection of software has been produced and is distributed to all the Starlink sites and to many astronomical centres overseas. Great efforts are being made to rationalsie and standardise the present rather motley collection of programs into a compact and well integrated system.

(After graduating in Astronomy from UCL, Mr Wallace went into computing in industry. He then joined the Anglo-Australian Telescope Project, which is 50% SERC-funded. Having developed the AAT control system he then went on to instrumental control and data analysis projects. He joined the Starlink Project in 1980 and became project manager a year later).

Film Badge Notice

It is Period 9 Colour Strip ORANGE
Please check that you are wearing the correct dosimeter and that all old ones are returned.

Next Film Issue
Monday 12 September

Will anyone needing a new holder please contact Jenny Coates, Ext 5430.

IRAS on TV

The IRAS teams latest discovery, of a planetary system round Vega, will be the subject of a programme in the popular television series 'Sky at Night' on BBC 1, Sunday 4 September at 11.30 p.m. A repeat will be shown on Saturday 10 September. BBC 2 at 5 p.m.

In the programme, entitled "Unlocking the Secrets of Vega", Patrick Moore will be discussing with IRAS science-team members George Aumann and Fred Gillett, the way the discovery was made and its place in the overall picture of the formation of the Universe.

IERE Award

The Institution of Electronic and Radio Engineers has awarded the Sir Henry Jackson Premium to Geoff Gardiner, John Lane and Henry Rishbeth, for their paper, "Radio and Space Research at Slough".

This paper was considered to be the most outstanding paper on the history of radio or electronics to be published in the Institutions Journal during 1982.

Congratulations, gentlemen!

Library Notice

The following publications are needed urgently in the Library. Would those holding them please return immediately.

'The Upper Atmosphere' by J K Hargreaves

'Journal of Vacuum Science & Technology' Vol 12, No 6, 1975.

UK TELEPHONE DIRECTORIES

A complete microfiche set of UK directories is kept in the R61 Library office. Please ask office staff if you wish to consult this set.

Thanks

Sally Farmer (nee Gill) would like to thank everyone for the lovely wedding gifts she received when she left RAL. They have now been found suitable and important places in her new flat. She sends her best wishes to all.

Joy New writes to thank all colleagues of R9 Workshops and the Post Room and all who contributed to her farewell present. She says "Goodbye to all those she didn't have a chance to see to thank personally".

RAL Welfare

(Photo: Harwell)

Mrs Brenda Cairns is the Harwell Welfare Officer with special responsibility to RAL. She can be found for consultation, at all times, in building 363, Curie Avenue, in the AERE Harwell shopping precinct or can be contacted on 72-3061.

The Welfare Branch (AERE) provides a comprehensive welfare service for all RAL employees. It maintains close contact with all local authorities, social services and voluntary organisations.

Science Museum at Wroughton

Once a year the Science Museum opens up its transport collection at Wroughton Airfield near Swindon.

The 1983 Open Day will take place on Sunday 11 September from 10.00 - 17.30 hrs.

Undercover displays of commercial aircraft, agricultural machinery, commercial vehicles and space rockets are featured, and the outdoor attractions will include working agricultural machinery, vintage fire-fighting equipment, model aircraft, vintage buses, railway equipment and craft demonstrations.

For more details, please ring Jean Banford on Ext 5484.

Table Tennis

Players are needed for the Evening League teams, particularly new players for teams in the lower divisions. Would anyone interested please contact Peter Kent, R30 Ext. 6325.

Music for Pleasure

The London Philharmonic Orchestra give a series of concerts at the Royal Albert Hall, at very reasonable prices for group-booked seats.

RAL's group organiser is Nigel Angold Ext 6508 and all interested parties should ring him for more information.

The October concerts take place on Friday 14 and 28 at 7.45, and the programme, the same on both nights, is

LISZT Mephisto Waltz 1
BEETHOVEN Piano Concerto 3 in C minor
DVORAK Symphony 9

Crib

The 1983/84 lunchtime crib session starts soon. Last season we had 12 teams in the league, the honours going to -

KLONES - LEAGUE CHAMPIONS

John Ellis (Capt)
Peter Dorrington
John Nichols
John Turner

15 WATTS - KNOCKOUT WINNERS

Neil Grafton (Capt)
Tony Ferrari
Neil Johnson
John Mackerness

Additional teams are always welcome and anyone interested in playing - whole teams or individuals - are invited to contact Tony Lubbock in building R2, Extn 5217.

Guide Dog Silver

For several years staff of the Atlas Centre and other groups at RAL have been saving milk bottle tops and other aluminium foil for recycling. The collections are given to AERE 'Guide Dogs for the Blind Fund'. Now we only require another £92 towards the £1000 needed to buy and train our sixth Guide Dog. Many thanks to all those who have brought clean washed foil to Room G13, R27. Please keep up the good work and encourage your friends to help too. Kate Crennell.

NIMROD LECTURE
Monday 5 September
1400 hrs
Lecture Theatre

A Review of Large Central Detectors. (For everyone)
by
Martin Evans

To the Future!

KEN

The Nimrod generation continues to dwindle, and on Thursday 28 July the "brotherhood" gathered yet again to give Ken Potter, the now traditional ceremonial 'send-off'.

Ken became an instrument maker, in the era when a man of his calling would take a box of castings, carry out all the machining and fitting work himself, finally finishing off the job by hand laquering. Bryan Boardman, making the presentation, even had a tale to tell of apprentices using trained spiders to produce the cross-wires for the eye-pieces of telescopes.

It was in 1960 that Ken became a member of Nimrod Magnet Supply Group, when all that existed of the motor alternator sets was a mass of re-inforcing for their foundations. Ken became involved in the exacting tasks of foundation steelwork alignment, temperature controlled concrete setting and, when the alternator sets were being erected, the frequent measurements and calculations that had to be made to compensate for variations in the profile of the foundation block. After commissioning the machines, a great deal of mechanical testing had to be carried out, and the knowledge acquired was also of considerable benefit to industry.

Like all the Nimrod lads, Ken seems to have been extremely versatile. He moved to the Design Group and was involved in metal spraying techniques, flow in pipework, prototype concrete magnets, heat transfer techniques, development work for muon chambers, and a host of other projects.

In 1977 he made the move to the SNS records office, and for his sterling work there as well as for all else, we thank him for the highly desirable qualities he brought to his posts. "Thank you for everything," said Bryan as he presented him with a slide projector from all, "We wish you very well".

Happily Mrs Potter had also retired from work the previous week, and so could be present to join in the occasion and to receive a small gift of chocolates.

Ken thanked everyone for the gift, good wishes, and for the marvellous send-off. He would always treasure the time he had spent at the Lab with such great folks, he had enjoyed every moment. It was a traumatic experience to arrive, after so many milestones in his work, at this one in his life. But, he certainly was not going to be short of things to do.

Note: Ken tells us spider's web is still used!

Ken and his wife share a joke with Bryan (left).

JOY

Joy proudly displays her card.

Friends and colleagues met in R1 Post Room for a surprise presentation to Joy New on the 11 August 1983, to mark her retirement from RAL.

Tony Short, in making the presentation, described Joy as being in a unique position as she was the last of the domestic staff at RAL. Having joined the Laboratory in 1967, Joy worked both in R2 and R9 Mess rooms. More recently she has helped out General Administration Group in R1, where her temporary messengerial duties were much appreciated.

Joy clearly enjoyed her many years at the Laboratory "so much so that she stopped overnight to help with emergency refreshments during the bad winter of 1981/82", said Tony.

Joy thanked everyone very much for the card, gifts and pot plants, and wished everyone well.

Coffee at Cosener's

Now that the summer holidays are drawing to a close and everyone is beginning to think of serious things like when the school term begins etc. why not make a note of a few dates in your diaries to make sure you won't miss the coffee mornings at The Cosener's House, once a month from 10.30 - 12 noon. The September gathering is on Thursday 8th. See you there!

Rosie Fisher (Abingdon 23844) and Joy McWhirter (Abingdon 20232) will answer any queries.

Bulletin

Editor: Jean Banford
Building R20
Rutherford Appleton Laboratory
Chilton, Didcot, Oxon OX11 0QX
Abingdon (0235) 21900 ext 5484

Deadline for insertions: