



Rutherford
Laboratory

R(12), NDT(60,3), ISW(3500), ANGLE(60), YINT(60), DUMMY(84),
(6,3), NAC(48), GEN(12), TIP(12), TC(12), AR
MMON/CFID/MFX(20,3), MFY(20,3), NFDX(10,3), NFX(3), NFD(3), I
B(2,20,3), NX(100,4), NY(100,4), XN(2), YN(8), TB(100,2), IDX(
DY(100,2), JDX(4), JDY(4), IHS(4), IDV(2), IUN(2), IDEL(1), IDE
CF(16), IFS, NFS, FX, FY, JK, PIC, KPIC, NCDUNT, NBIN, MAXO, XUN
AXN, CTA, CTB, MX, MY, JA, JB, JC, JD, JE, JF, XF(20,3), YF(20,3),
MMON/CJACK/NSY(20,30), NMS(20), NDR(20), NBR(1), NTA(1), YA
(20), BX(20), NST1(20), NST2(20), INER(20), ISAT(20,30), IAT(60)

28 February - 6 March 1972

bulletin

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CURRENT AFFAIRS

There will be many stories told of the difficulties experienced during the present emergency, some amusing, some tragic. Most of us will have got by with varying amounts of inconvenience depending on the percentage reliance on electricity. Now that the coal is moving again and power stations, closed down through lack of fuel, are beginning to operate again, it is a good time to take a look at the situation at the Rutherford and Atlas Laboratories. The crisis broke on Friday 11 February with cuts in the supply of electricity on a rota system hitting the whole country. The Rutherford/Atlas Laboratories supply is via AERE Harwell which obtains its supply direct from the 132,000 volt CEGB grid and from two lines which are not subject to cuts.

On the morning of Friday 11 February an emergency meeting of the Management Committee was called resulting in decisions being made immediately to cut consumption drastically on a purely voluntary basis. Before showing what the plan produced in the way of savings and how the day-to-day savings were increased it will be helpful to indicate the normal electricity consumption of the Laboratory. (Atlas is included in the total figures but their economy measures are dealt with later). The figures for electricity consumption are given in two forms, i.e. the maximum demand which represents the highest rate of the use of electricity in any one hour during a 24 hour period and, the total consumption during any particular 24 hour period. The maximum demand is expressed in Megawatts (MW) and the actual consumption is in Kilowatt Hours (kWh) or units, one unit being 1000 watt-hours, i.e. a 100 watt lamp burning for 10 hours = 1 unit (also a 1 Kilowatt fire on for 1 hour = 1 unit). To avoid confusion consumption will be referred to in units. During the period prior to the December - January scheduled shutdown, the maximum demand would be about 22 to 23 MW and the daily consumption about 500,000 units.

After the programmed winter shutdown, Nimrod started up early in February and the scheduled machine physics programme commenced, requiring about 11 MW. The maximum demand of the Laboratory rose to 12.75 MW and the daily consumption to about 300,000 units. This was the situation before the emergency arose; however with Nimrod running at 7 GeV/c with a full experimental programme including the 1.5 metre bubble chamber, the requirement is for just over 22 MW which would have been the figure required by 24 February. The total maximum demand for both Laboratories would therefore have been about 22-23 MW and the daily consumption at the $\frac{1}{2}$ million units level.

The most important decision made on Friday 11 February was to switch off the beam and stop Nimrod pulsing which reduced the maximum demand from 11 MW to 1 MW and putting the machine on a one hour stand-by condition. Other steps taken on that Friday included switching off all electrical space heating (including the Directors suite, the Deputy Directors suite, the Secretary's Suite, Buildings R32 and R54) and an appeal for the maximum economy in lighting. All of these measures, decided at a meeting with representatives from Staff Side and the Trade Unions, resulted in the maximum demand dropping from 12.45 MW to 2.05 MW and the daily consumption from the normal figure of about 300,000 units to 45,725 units (approximately 15% of the normal consumption). The decisions also resulted in a major re-accommodation exercise for the staff whose offices were now unheated or where this was not possible (i.e. the Lodge at the Main Gate) the provision of emergency heating.

On 12 and 13 February, further Nimrod plant was switched off reducing the Nimrod load to below 1 MW. In this condition the machine could have started up again in about 48 hours. To achieve any further significant reduction meant sacrificing the ability to start up again quickly. This was done on Friday 18 February reducing the Nimrod load to a nominal 300 kW. From this condition it will take about a week for Nimrod to be operating again.

During the week commencing 14 February other economy measures were brought in such as switching off street lighting, 14 site transformers taken out of commission, and a reduction in the operating time of the 360/195 central computer. On Friday 18 February the central computer was switched off and the Rutherford Laboratory was closed for the weekend. Over this period considerable economies were made by stopping air conditioning plant at both Laboratories.

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INTERNAL EVENTS

NIMROD LECTURE SERIES

Monday 28 February
11.30
Lecture Theatre

Experimental Situation for the Line-Reversed Reactions

Dr R Barloutaud/Saclay

HEP DISCUSSION GROUP

Thursday 2 March
11.00
Conference Room Building R1

Low Momentum-Transfer Theorems for the Scattering of Charged Particles

Dr S M Roy/Saclay (Please note change of day)

FILM SHOW

There will be no film show this week.

NIMROD LECTURE SERIES

Monday 6 March
11.30
Lecture Theatre

Meson-Meson Interaction

Dr J L Peterson/CERN

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OVERSEAS VISITS

Dr B D Jones to CERN 27 - 29 February to attend ECFA meeting
Mr M J Hotchkiss to CERN 27 February - 3 March to prepare apparatus for S120 Experiment. (Proposal 100 refers).
Mr A R Mayhook to the USA 27 February - 11 March to visit the McDonnell Automation Co St Louis, Missouri, and the IBM Research Laboratory, San Jose California, and to attend a 4-day meeting of the SHARE Conference in San Francisco.
Messrs J E Boon, J F Connolly and R J Stanhope to CERN 28 February - 2 March for discussions on the proposed S120 experiment to be mounted at CERN.
The Director to CERN 29 February - 1 March to attend a meeting of the Nuclear Physics Research Committee.
Dr J M Valentine, to the USA, 2 - 11 March to participate in S68 launch range activities at the Western Test Range, California, and to have discussions at the Lawrence Radiation Laboratory and SLAC.

SOCIAL NEWS

FOLK CLUB OPENS

As a result of the meeting held on Friday 11 February it has been decided to form, as part of the Recreational Society's activities, a Folk Club.

The opening night of the new club will be on Friday 3 March at 8 p m in the Coffee Lounge, Building R22. Admission 20p. The Guest Artist will be Nic Jones, a singer destined to be emulated by young singers all over the country. Nic, whose singing style, instrumental work and repertoire is instantly recognisable is one of that small band of folk schizophrenics, who can play the most complex rhythms, and sing in another rhythm across this without loss of interpretation or legibility of the lyrics. Apart from being an outstanding interpreter of traditional material, he is regarded as perhaps the most sympathetic and sensitive accompanist on the folk scene, particularly on the fiddle, an instrument few people know he even plays. With such an outstanding guest artist, the opening night of the new Folk Club should be assured of success. (I wonder where they are buying their candles? - Ed).

RECORD SOCIETY

Tuesday 29 February at 12.40 p m in the Lecture Theatre.

The World of Wales in Song, with the Pendyrus Male Choir, Treorchy Male Choir and the Morriston Orpheus Male Choir. A celebration for St Davids Day - 1 March.

RUSH COMMON HOUSE - EASTER BALL

There will be an Easter Ball at Rush Common House Abingdon on 24 March 8pm to 1am. JIGSAW and the Vic Good Band will be providing the entertainment. Tickets 50p will be available from A J Shave Ext 6642, T B Willard Ext 213, W G Seddon Ext 6230 or Brenda Howse at Atlas Ext 6284.

CHRISTIAN FELLOWSHIP

Friday 3 March 12.30 pm R12 Conference Room. Dennis Williams will be leading our monthly prayer meeting. All are welcome.

EXTERNAL EVENTS

NUCLEAR PHYSICS SEMINAR
Monday 28 February
14.30
Nuclear Physics Lab Oxford

Two and Three α - Particle Transfer on to ^{12}C .
Professor T A Belote/M I T and Oxford

THEORETICAL PHYSICS SEMINAR
Monday 28 February
16.15
Queen Mary College

Quantisation and Gravity
Dr C J Isham/Imperial College

DARESBURY LECTURE SERIES
Tuesday 29 February
14.30
Daresbury Laboratory

K^+P Elastic Scattering From 0.9 - 1.9 GeV/c
B J McCartney/Bristol University

ELEMENTARY PARTICLE PHYSICS SEMINAR
Tuesday 29 February
14.30
Nuclear Physics Lab Oxford

High Energy Physics at Berkeley
Dr G Kalmus/RHEL

NUCLEAR PHYSICS SEMINAR
Wednesday 1 March
14.30
King's College London

The Heavy Ion Reactions - the Problems they Present to Astrophysics and Nuclear Physics.
Professor E Vogt/University of British Columbia and Oxford

OXFORD SOCIETY FOR SOCIAL RESPONSIBILITY IN SCIENCE
Wednesday 1 March
20.00
Room C113 Psychology Dept
South Parks Road Oxford

Science Policy
Sir Frederick Dainton/Chairman of the Council for Scientific Policy

THEORETICAL PHYSICS SEMINAR
Thursday 2 March
16.15
Clarendon Lab Oxford

Crystalline Helium - a Quantum Crystal
Dr L H Nosanow/Sussex and Minnesota

EVENTS AT AERE

THEORETICAL PHYSICS SEMINAR
Tuesday 29 February
14.00
Conference Room Building 8.9

The Interpretation of Radio Recombination Lines
Professor M J Seaton/UCL

NUCLEAR PHYSICS COLLOQUIUM
Thursday 2 March
15.30
Conference Room Hanger 8

The Proposed U K High Flux Beam Reactor
Dr L Hobbis/RHEL

RUTHERFORD LABORATORY BULLETIN

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Deadline
for
Insertions

GENERAL & SOCIAL NEWS

INTERNAL & EXTERNAL EVENTS

Tuesday 1600

Wednesday 1200

Room 42 Building R20
Rutherford Laboratory
Chilton Didcot Berks
Abingdon 1900 Ext 484

To see how the Atlas Laboratory has fared we asked Dr J Howlett, the Director for details, and we are grateful to him for the following report: "We switched the Atlas Computer off on Friday 11 February, and in fact it has not yet been switched on again. We ran the 1906A Computer on one shift only until 17 February when, as the national situation was deteriorating, we switched that machine off also. The daily consumption of electricity was reduced from its normal of 11,000 units first to 4770 with the closing of Atlas, and then to 290 when the 1906A also was switched off. The air conditioning plants were run at minimum level and under manual control, so as to use as little power as possible whilst preserving safe environmental conditions for the computers.

The 1906A was switched on again on Monday morning 21 February, and has been run, again on one shift only, since then. The present plan is to switch this machine off again at the end of Thursday, and run Atlas for three shifts from then until Monday, when the situation will be reviewed once more".

The increasing effectiveness of all these measures can be seen by the following daily consumption figures which are taken from Sub-station 12 at the Rutherford Laboratory where the total Rutherford and Atlas consumption is metered and recorded.

Date	Consumption	Maximum Demand	Date	Consumption	Maximum Demand
11 February	138,650 units	12.45 MW	17 February	35,050 units	1.95 MW
12 February	45,725 units	2.05 MW	18 February	26,625 units	1.60 MW
13 February	44,300 units	1.95 MW	19 February	11,725 units	0.60 MW
14 February	46,975 units	2.20 MW	20 February	12,025 units	0.65 MW
15 February	42,775 units	2.10 MW	21 February	20,375 units	1.35 MW
16 February	39,500 units	2.05 MW	22 February	28,050 units	1.90 MW

In conclusion the following facts should be born in mind: the Laboratories did not receive formal instructions on cuts in consumption, until Tuesday 22 February; what has been achieved has been on a purely voluntary basis; the Laboratories have still maintained a full working week for their staffs, the only reductions being in shift working and overtime; most important of all, the Laboratories have operated at a level of power consumption which is less than 1/10 of that requested by the Government, i.e. not a 50% cut but over 90%.

BLOOD DONOR CLINIC

The next clinic will be on Monday 20 March and Tuesday 21 March in the Main Conference Room Building R1.

The Oxford Regional Blood Transfusion Centre has asked for our co-operation in giving more publicity to their visits to the Laboratory. ~~It has been agreed that more posters will be displayed and also that slips will be placed in salary and wage packets next week asking people to volunteer to donate blood.~~ The slips, supplied by the Blood Transfusion Centre may be completed and sent to Local Admin Offices. If anyone does not wish to complete this slip but nevertheless would like to donate blood, they may give their names directly to Mrs Shipley in the R12 Local Admin Office.

SMALLPOX VACCINATION

It is no longer essential to possess a valid certificate of vaccination against smallpox for travel to the USA and Canada. Although the Medical Department would still advise smallpox vaccination for travel to areas where smallpox is endemic, they do not recommend routine smallpox vaccination since this procedure carries a small amount of risk.

VISITORS

Students attending the Radiation Protection Course at AERE will visit the Laboratory on Wednesday 1 March.

FILM BADGE NOTICE

It is Period 3. Colour Strip - GREEN for 8y films and fast neutron packs. Please check that you are wearing the current dosimeters and that all old ones are returned.

MISSING EQUIPMENT

The following item of equipment has been reported missing:-

Temperature Recorder - Serial No R35263 Loan Pool No 1360

Anyone with information on the present whereabouts of this instrument is asked to contact Mr E J D Newbold Ext 570.

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