

Vision

The house magazine of Rank Xerox Mitcheldean

A highly rewarding project

THE EFFORTS of the Unified Job Evaluation team, which won a Corporate Team Excellence Award last December, have proved rewarding in more ways than one.

The team members — trade union senior representatives Colin Butler, Allan Edwards, Billy Malsom and Rob Miles, and members of management Mike Cooper and Charlie Walker — agreed that their accumulated prizes, which amounted to nearly £6,000, should be divided equally between six charities chosen by them.

Representatives of the charities were invited to Mitcheldean on Tuesday, 10 April, to meet the people who had made this possible and to receive their bumper cheques.

Welcoming them, site director David Stokes spoke of the great emphasis that had been placed by the company over the last decade on improving both product and business quality.

He explained how the team had been involved in developing and introducing a new job evaluation structure. "Through their hard work we at Rank Xerox Mitcheldean became one of the first organisations in the UK to create a single bargaining unit."

This achievement had resulted in the team becoming first European and later Corporate winners along with six other D&M/MO teams.

The cash prizes which come with such awards are traditionally



Representatives of the charities pose with their bumper cheques — and the members of the award-winning team.

donated to charity, he explained, thus providing further motivation.

The team members were delighted to be able to pass on £953 to boost the funds of each of six good causes.

These were HTV West Telethon '90, BBC's Children in Need, the National Meningitis Trust and the Birmingham Children's Hospital Surgical Research Fund, plus two closer to home — Gloucester Hospital's Scoo-B-Doo and our own RX Employees Charity Fund.

HTV West Telethon is participating in the nationwide ITV Telethon and their presenter, Patricia Yorston, said that the

campaign will be channelling money to local charities, just like BBC's Children in Need (whose representative was unable to come along to the presentation).

The vice chairman of the National Meningitis Trust, Ginny Clarke, told how the charity had been started up in Stroud by her own daughter when her grandson contracted the disease in 1985.

"We are committed to raising over £1 million for research; we are expanding our welfare department, funding vaccine programmes and have plans to expand to the Third World," she said.

Consultant surgeon John

Corkery of the Birmingham Children's Hospital said that their donation would be used mainly for research into deformities of new-born babies and urology disease.

The cheque to Scoo-B-Doo is being used to buy outright a new infusion pump for administering small amounts of fluid to babies.

"It will bear a plaque acknowledging that it was bought with this donation," said Gary Barrett, a senior nurse at Gloucester Hospital special care baby unit.

The RX Employees Charity Fund was represented by Keith Horrobin, who told our guests how the fund had initially come into being, how it had supported the Craig Johnson Appeal and was continuing to serve local charities.

Our visitors all expressed their warm appreciation of the donations and thanked the team for their efforts.

They were afterwards entertained to a lunch, hosted by personnel manager Robin Fyffe.

Mitcheldean Plant — national award winners

From the left —

- Best Factories Award
- Environmental Commendation
- British Quality Award



Changes at top level

PAUL ALLAIRE has been elected chief executive officer of Xerox Corporation with effect from 1 August.

David Kearns, the company's chairman and chief executive officer, making the announcement, said: "Paul has been with Xerox since 1966 and has come up through the ranks. He has been intimately involved with me in restructuring the corporation during the '80s and setting our strategic direction for the '90s."

Paul Allaire has held a variety of positions in financial planning and general management. In 1975 he was named chief staff officer and executive director for Rank Xerox in London. He became managing director of Rank Xerox in 1980 and returned to the USA in 1983 as senior vice president and chief staff officer. He has been president of Xerox and head of the Business Products & Systems organisation since 1986.

David Kearns will continue

as chairman of Xerox and chairman of the executive committee.

In another change at top level, Eric Steenburgh has been appointed president of the Information Products Division as from 19 March.

He is succeeded as senior vice president and general manager of Manufacturing Operations by Allan Dugan, who will have responsibility for all manufacturing operations worldwide.

He has joined Xerox after

23 years in manufacturing and engineering management with AT&T; most recently he was manufacturing vice president for AT&T Network Systems.

David Thompson has been appointed chairman of Rank Xerox (UK). Succeeding Sir Derek Hornby, who has now retired, he will continue in his role as an executive director of Rank Xerox and director of Region 'B'. He joined Rank Xerox from IBM in 1965.

Getting to know us

A MONTH after taking up his new appointment as the new vice president for manufacturing operations world-wide, Al Dugan visited Mitcheldean as part of a 'getting to know you' tour of European manufacturing plants.

It was not planned, but a happy chance, that he came on the very day — 17 April — that saw the start-up of operations in the building 1 focussed factory with the 5012/14 showcase facility.

This was his first stop on a site tour which followed a management review, and everything looked brand new.

Al remarked on the light and open working environment and the absence of clutter around the workstations. He showed keen interest in the product mover and the planned progression to a low cost automated goods vehicle.

Phil King, M2000 project leader, explained about the preparations for the setting up of the 5018/28 in the same area; afterwards, our visitor was taken to see a demonstration of single cell build of these machines in the existing facility in building 4, where the electronics facility from Welwyn is being installed.

Earlier Al had been given a full presentation of the electronics transition plan and he was most impressed with the progress made in a relatively short period in the relocation of this operation at Mitcheldean.

Said site director David Stokes: "His general feeling was that if we were able to successfully manage the transition and establish electronics at Mitcheldean it would represent a tremendous opportunity for the site and its future."

Continuing his tour, Al visited the harness assembly centre where he learned of the work carried out for other Xerox plants and saw the use of video equipment for one of the JIT showcase strategies.

Then it was on to the training centre where he saw different aspects of its activities in progress, and enjoyed a chat with operators newly recruited for the developer housing operation now installed in building 13.

In the Open Learning Centre he saw people doing SMIP computer-based studies and a manual advanced skills test (MAST) being carried out.

A visit to the CAD/CAM facility enabled him to appreciate various applications, such as computer-aided manufacture, facility layouts and electronic transfer of designs including a link-up with Fuji Xerox.

The final port of call was the M2000 project room, where Al saw the illustrated assembly process demonstrated.

"He was particularly impressed with our M2000 achievements and believed our plans to be 'right on track'," said David Stokes.

"He also commented favourably on the general site facilities, housekeeping and the very commendable attitude of staff with whom he talked.

"He is, he said, looking forward to doing business with us."

Al Dugan has a chat with Fred Sheers in the pack area of 5018/28 assembly.



Touring the focussed factory and (below) studying a series of product movers in the course of AGV development.



In the training centre our visitor sees how recruits for the developer housing operation are being equipped for the job.



Development team make a timely move



The engineering team led by Ken Osborne (far left). Far right is programme manager Mike Green.

A FEW years ago, Mitcheldean staff were to be seen working alongside staff at Welwyn, in all functions and at all levels, during the development phase of the 5046 mid volume copier.

Today they are once again working together as a team on the development of a new product.

But there's a change in the scenario. This time they are co-located here at Mitcheldean where the machine is to be manufactured.

And, benefiting from experience with the earlier programme, a different set-up has been adopted.

The product development team is a stronger, technically competent one with overall accountability for the product under the leadership of Mike Green, new product programme manager.

Mike, who has 27 years' experience with the company behind him, is no stranger to this site, having been technical programme manager on the 4000 family in the '70s.

Before becoming programme manager on the 5052, he managed the pilot plant at Venray during the development of the 1040/50 and, he says, "I wanted to set up something similar to what we had there."

Reporting to him is Bob Short, manufacturing resource team manager. As such he has charge of the pilot plant activity which is fully integrated into the product development process.

For Bob, too, Mitcheldean is familiar territory — in fact, he joined the company here and worked in PED during the '70s.

Ken Osborne heads the engineering force (designers, engineers and technicians) who, working closely with the pilot plant people, design parts that

meet the customer requirements for this El Segundo product.

Also reporting to Mike is another long-serving ex-Mitcheldean — Ron Caldicutt, manager of forward procurement planning (FPP).

Making up the rest of the programme team are an equal number of systems engineering, software, electrical hardware and reliability test staff located at Welwyn, and Mike divides his time between the two sites.

The decision to bring the pilot plant, engineering and associated FPP staff from Welwyn to Mitcheldean was prompted by a need to engage our plant processes and procedures as regards quality, training disciplines, etc. — "All the good things that prepare us for transition to manufacturing," as Bob put it.

Front runners in the move were Bob's pilot plant team — a group of our assembly, product engineering and other staff involved in the initial build operation.

Shortly before Christmas 1989 they returned to home base, along with their tools, fixtures and parts, and settled in a new build facility set up adjacent to 5046 production.

Surveying it from his mezzanine office, Bob commented: "It is all going very well and we are happy with it."

Section manager George Elliott reported that they had a good problem tracking system in place; and Mike Grindle, a 5046 FR&T 'veteran', pointed out that "having been involved in 5046 development has helped tremendously."

Moving the engineering team of 22 was a more difficult and costly business.

A condition of the move was

that their new working environment should be equivalent to their existing one.

Lack of space made it impossible to locate them alongside the pilot build operation as they had wished, but an alternative location was found in building 7/3 and Dave Poyner (works engineering) who was given the task of getting it ready in a short time scale earned himself an accolade!

The area, vacated some time ago, had to be 'reactivated', Ethernet had to be reinstated in the totally enclosed area and a code-operated security lock fitted. The facility also had to include a small print room equipped with dye-line printer.

Across the floor offices for Mike Green and his secretary and a conference room were provided, while down in the pilot plant area a development lab. with laser area was installed.

Last February the vans rolled in, bringing all the equipment the engineers required. Apart from a copier, laser printer and fax machine there were about ten workstations and VAX terminals plus instrumentation for technicians.

They also brought their own 'phones, chairs, desks and drawing boards, the latter being required to back up the Intergraphs in our CAD/CAM facility.

Ken Osborne considers it is all working out well and adds: "The facility is very good and I have better visibility of the department than at Welwyn."

The only disadvantage is that Stuart Christie's line support team, who are the first contact with the pilot plant product engineers, have to 'commute' between buildings 7 and 3. But, says Ken, "It's a better trade-off

than splitting my group up."

February also saw the arrival of FPP staff, both Welwyn people and Mitcheldean assignees, who have been conveniently accommodated within building 6/2, where they have the support of materials staff.

Also working well with planners during this time of intense change are small batch, fuser and harness operations who are providing prototype, pre-production and modified parts.

For the Welwyn team a major factor was having to leave their families and friends during the week. They were offered a special assignment package and our personnel department were happy to assist in their integration.

Said employee relations manager Charlie Walker, "Our task was to help them find accommodation in hotels or rented houses and John Xerri and Caroline Baynham gave assistance in various ways."

Previously employed in the European Systems Centre personnel department, John was able to identify with them, having experienced the same problems himself.

"We put them in touch with hotels and estate agents, vetted tenancy agreements, and answered numerous questions about everything from sports centres to poll tax issues," he said.

An information room was set up at Welwyn and now all this data is coming in useful for the transfer of the electronics operation into building 4 commencing this spring.

On their first official day on site, an induction course was organised for the newcomers and they were shown around relevant areas.

Communications are given high priority. "We have a full programme team meeting here every week to discuss technical matters," Mike Green told us, "and plant management are invited. We also have weekly staff meetings to ensure our people are kept in touch with developments at Welwyn through the cascade process.

"Intensive effort is called for at this stage of the programme and



Bob Short (far left) and his pilot plant team together with the FPP group led by Ron Caldicutt (extreme right).



Esmée Halford



Derek Wicks



John Marshall

Service awards

35 years

OUR LONGEST serving woman employee, **Esmée Halford** was recruited at great speed.

Deciding to leave the local grammar school, she went to the labour exchange on the morning of 27 April 1955, had an interview that afternoon at Mitcheldean and was asked to start the next day.

She took up her duties as junior clerk and tea girl in production control, located in the former brewery building (now MEWS building 6), and within a year was in charge of stock records.

Soon afterwards they moved into the brand new 'admin. building' on the ridge, since when she has worked in almost all major buildings on site. "I like the building 6 I'm in now best of all. It's a vast improvement on the first one!"

Esmée was made section leader in spares PCD in 1968, and a few years later was commuting weekly to Venray in connection with the transfer of the 3100. "My most vivid memory is of catching a coach to the airport on Mondays at 4am," she says.

In 1976 she was promoted to supervisor in configuration control when this was transferred from PCD to commodity operations.

She has visited the States on three occasions. She first went to Webster in 1983, and while there watched the Rochester baseball team playing in a match — from the Xerox 'box'.

On her second visit the following year she flew on to El Segundo in California in connection with MICR, a 9500 derivative for printing cheque forms.

By the time she made her third visit, in 1987, she had been appointed section manager in charge of 5018/28 configuration, a job she says she really enjoys because "I get involved with so many people both sides of the Atlantic."

Esmée likes decorating, driving Fords and looking after flowers (her father does the vegetable gardening, so it works out well).

Fuchsias are her current favourites and she's now trying to grow them from cuttings — with helpful hints from another fuchsia fancier in commodity operations.

30 years

Derek Wicks has spent most of his 30 years in the parts manufacturing environment.

He came to us straight from the

Services, joining the Bell & Howell machine shop progress section, where he remained for some three years.

Then he started going places — as one of the crewmen who installed new 914 machines in customers' premises. "We went everywhere in the country except the London area. It was the most interesting job I've ever had," says Derek.

He continued 'on the move' when this activity was phased out, taking a course in forklift driving and carrying out general duties in the warehouse.

In 1966 he returned to the machine shop for a further four years, this time as shop loader. Then when the new small batch facility was set up in 1970 he transferred to that area as materials analyst and a decade later saw it merged with the tool room.

The department is unique in that most of the 14 staff are long-servers, having worked together for some 20 years or more and "They're a good bunch of blokes," says Derek.

He met his wife Sandy when she worked at Mitcheldean in production control back in Bell & Howell days, and they celebrated their silver wedding last year.

Sandy leads a very busy life — she is a Cinderford town councillor and a governor of Heywood School, yet still finds time for her hobby of making fancy goods.

She and Derek have two sons, Daren and Kerry, both of whom are carpenters.

A darts player for nearly 30 years, Derek played at league level until about five years ago; now Daren is carrying on the tradition.

He also takes part in interdepartmental skittles with the

small batch team, who were champions in 1986.

25 years

Ex-miner and former foundryman **John Marshall** started, paradoxically, in 'finishing'.

He worked in the polishing and vibro shops, then after a year switched to pallet build for the 813 assembly main line.

A stint in the press shop (spot weld) followed before he went into the warehouse. When this moved to Gloucester Trading Estate, John stayed on site and became a forklift driver in production — a job he has done for the last 23 years. "I'm probably the longest-serving forklift driver on site," says John, who currently operates in building 3/1.

The Marshalls are a truly Rank Xerox family. John's wife Eileen works in spares packing and, if she had not broken her service, it would be rivalling John's in length.

Both their sons work on site too — Mark on 5046 optics, while Stephen, the elder, is employed in refurbishing dismantle & clean section.

Stephen sometimes joins his father when he rough shoots on local farms, Mark is more of a footballer.

John used to go deep sea angling with the Rank Xerox Angling Club in the '70s. Eileen is now 'hooked' on the sport and takes part in sea matches.

Says John, "I started by fishing on the Severn and Eileen came too. Now she usually shows me up — I've even seen her catch conger eels!"

The Marshalls like to go down to Cornwall for their holidays. While there last year John was approached by a film production unit who asked him if he would mind being featured in a Gateway TV commercial. The family eagerly awaited the showing on screen and saw him appear — but only as a silhouette.

"I didn't mind," says John, "the pay was generous!"



Seated — *Graham Selwyn (refurbishing), Tim Humphries (MIS) and Mike Wall (QA); standing — Gordon Jenkins (transport) and Steve Williams (fusers). Others who qualified recently for 20 year service awards were Andrew Tate (purchasing), Bill Hatton (fusers) and Graham Yemm (flexibility pool).*

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we have to get the best out of the team."

Working 12 hours a day three days a week, with shorter hours on Mondays and Fridays, there wouldn't appear to be much time for social activities.

But to help compensate for lack of families and friends, and counterbalance the mental effort at work, five-a-side football has

been arranged, a badminton court rented, and two skittles evenings held locally which have proved very popular.

A match in the football field against Mitcheldean plant is planned and staff are competing in the interdepartmental cricket competition.

Everyone enjoys the beautiful scenery — and the lack of congestion on the roads. ("We warned them about the Forest

sheep and I don't think they believed us — but they do now!" said one of the pilot plant team.)

"We get on very well with the people we work with." "I like the people here, I like their sense of humour." These are the sort of comments we have picked up from Welwyn staff.

Mitcheldean reciprocates their sentiments. And we appreciate having the new programme under our roof too.

New post for P.M. Pai

AFTER some 15 months on assignment to EMO at Mitcheldean, P.M. Pai returned to India last March to take up an appointment as joint director of materials for Modi Xerox, based in Delhi.

In his new capacity, he hopes to make effective use of his work experience at Mitcheldean, especially in the areas of JIT and strategic planning.

During his time with us, he made a major contribution to the development of the M2000 project — the success of which he attributes to "the positive attitude of everyone involved."

Expressing his sincere appreciation of the help and support he received from various Mitcheldean staff during his assignment, P.M. said he had greatly enjoyed working here — "I felt part of the Mitcheldean team right from day one."

Ray has a road safety solution

BEING BLIND doesn't mean you can't see a problem or envisage a solution to it.

It was while being given a car lift to work from Monmouth, where blind brothers Ray and Lionel Jones have their homes, that Ray became aware of a particular problem faced by car drivers.

Travelling along the dual carriageway linking Monmouth and Ross-on-Wye, their driver often complained about the spray thrown up on wet days from the wheels of heavy vehicles which splattered the windshield and virtually blinded him.

At the time when our story begins, Lionel was in spares packing while Ray, aided by a special tool, was building 1025/1038 ducting assemblies — a job which even sighted people don't find too easy.

Ray set his mind to the spray problem, and devised a way of diverting the water generated by heavy vehicles' wheels.

Although mudflaps reduce the amount of mud and water thrown up, they don't generally limit the amount of spray created.

Ray came up with the idea of a spray-suppression device comprising slats and a backing sheet with a number of ribs.

The spray would pass through the slats and be directed towards the ribs; these would form gutters to channel the mud/water back to the road, so avoiding a splashback.

His device could be used as a mudflap or be located around the inside surface of a mudguard.

Ray decided he would patent his idea but he needed help with drawings and advice on how to apply for a patent.

He was put in touch with Dick Delahay, product engineering manager, who guided him through the process. Says Ray, "He has been, and still is being, a great help."

Some of the early drawings were done with the assistance of two Rank Xerox apprentices — first Richard Pittaway (who later worked in WGC engineering) and subsequently Mikela Stewart (now Hale), who works today in refurbishing.

The formal application for a UK patent completed, it was duly filed with the Patent Office in December 1986, the very month when Ray and Lionel opted for retirement.

The patent process is far from speedy. In this case it took two and a half years altogether.

When the first search confirmed that there was no trace of a device of this type, Ray was 'over the moon'.

Dick, however, pointed out that "Getting a patent simply shows that no one else has thought of the idea — it doesn't prove it will work.

"But no commercial concern is going to be interested in an invention that hasn't been proved."

The need, therefore, was to design a prototype, build it and test it, all of which would cost money.

It was now 1988, and Ray approached his local MP, the Secretary of State for Wales, the Minister of Roads and Traffic, even the House of Commons, in his efforts to obtain a grant.

This culminated in Ray and Dick meeting a representative from the Welsh Development Office. They succeeded in getting

Ray Jones and Dick Delahay discuss the current status of the enterprise.



a 70 per cent. grant to develop the idea further, provided the work was done in Gwent.

Two ex-Rank Xerox engineers were then contracted — John Badham (who operates a business in the MEWS) and Dave Foster, Mitcheldean's former product safety officer, who now runs his own safety concern.

In a Monmouth garage they set up a fearsome-looking test rig which simulated water spray from a vehicle wheel, and a model of the device was tested against British Standards requirements.

To everyone's surprise, except perhaps Ray's, the tests showed it was about 30 per cent. more effective than anything else around.

As Ray explained, "There are a number of spray suppression devices on the market and as long as they have a 65 per cent. performance figure they are within the law.

"But European regulations coming into force mean that that figure will have to rise to 70 per cent. Only a couple of existing devices can meet that, whereas ours rates about 95 per cent."

By this time — mid-1989 — the patent had been made public, attracting a rush of response from entrepreneurs who wanted to exploit Ray's idea.

"We interviewed a couple of them," Dick told us, "but decided they wanted more out of the project than they were prepared to put in."

So Ray pressed on alone. After six months or so he finally established contact with a company making commercial vehicle parts and last January he and Dick went to Manchester to meet their representatives.

It turned out that they were, in fact, seeking to extend their range with new products and showed significant interest.

"We are hoping to get the first prototype produced by the beginning of June," Ray was pleased to report.

Several people, in addition to Ray, Dick and Lionel, have demonstrated their faith in the device by backing the enterprise and "We hope to make a bob or two," said Ray.

RAY AND Lionel — and a sister — have all lost their sight through an inherited condition known as detached retina.

Lionel went blind at the age of 11. He attended the School for the Blind at Bridgend where he studied Braille and learned basket-making. Today he does chair-caning.

Ray, who reached the age of 38 before he was affected, does a little woodwork in his retirement.

Both brothers attend the centre for the disabled in Monmouth, and are members of the RAOB.

They also enjoy a pint in the Green Dragon Inn where, incidentally, they can reminisce with another ex-RX employee — former works engineer John Evans, who is the landlord.

Ian — marathon man



Ian Hale with his London Marathon medal.

IAN HALE, who is captain of Ross Rowing Club, swapped rowing on the Wye for running in the London Marathon on Sunday, 22 April, and found it an equally wet experience.

Our PQA manager had decided it would be a good way to mark the year of his 40th birthday. He applied for an entry in the event, but being one of some 70,000 applicants, he realised he hadn't more than a 50 per cent. chance of taking part.

His acceptance arrived along with Christmas and he began a serious campaign of training,

following the plan written by race director Chris Brasher for beginners.

The New Year saw Ian receiving treatment for leg injuries and a month before the due date he was uncertain if he would make it. "But I planned my training around my injuries," he said.

The massed run began at Blackheath at 9.30am — it was cool with rain, and owing to the volume of competitors it was 7½ minutes before Ian arrived at the start line.

His aim was to complete the course and, if possible, finish in under four hours. As it turned out,

he crossed the finish line at Westminster Bridge after 3 hrs 53 mins 46 secs of gruelling effort to complete his first ever marathon.

"The atmosphere was terrific — people cheering, bands playing — and that kept me going, even when it was pouring. I didn't see any famous people on the way, but I saw some 25,000 who weren't!"

Suffering with his left knee and some blisters but otherwise OK, he had one day's rest before getting back to the office, where he was hailed as 'Marathon man'.

Would he do it again? "Ask me in about six months' time," he says.

An early warning system to keep problems at bay

"IT'S THE most significant activity in quality improvement since Leadership Through Quality."

That is how Brian Buckland, manager, QA and technical services, describes SPC (statistical process control).

"Its application to all of our processes should lead to further improvements in our product quality and provide an opportunity to examine our business processes.

"The discipline of SPC will enable us to manage by using statistical data, removing some of the subjectivity and variability."

Variation represents a potential loss — to our customers and ourselves — and the use of SPC tools and techniques helps us to continually isolate, control and eliminate variation, whether it results from people, machines, materials, methods or tooling.

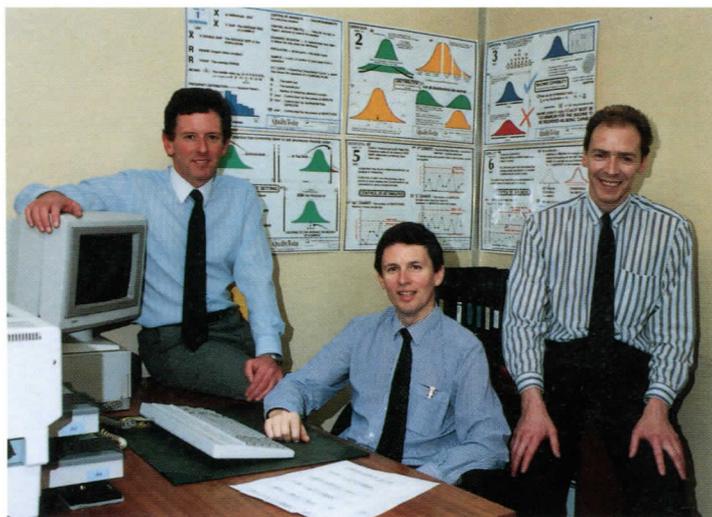
While the problem solving process is used to put things right, SPC is a predictive technique — it provides additional control and an early warning system that can prevent problems developing.

It involves establishing the capabilities of a process, setting control limits, measuring results over a period to see what trends emerge, then taking corrective action.

Our SQA people have been familiar with it for some years. "During the '80s much effort was put in to upgrade our suppliers by training them in process control in order to achieve part certification and so reduce our receiving inspection activity," said QA manager Brian Reeves.

"These efforts proved so successful, we decided to look for the same level of process control with our internal suppliers, comparing them with the best of our external ones."

In 5046 assembly, inspector Mike Wall (right) discusses a shift in the process with Marylyn Brain and Reg Taylor.



Pete Jennings and (far right) Ken Jervis, who chair the production and business implementation teams, with SPC co-ordinator Nick Hopkinson (centre). The display shows the various tools and techniques for statistical process control.

When in charge of MQA, Brian was a member of a multinational benchmarking team who visited six different plants at Welwyn, Venray and in the USA. Their investigations showed that in all six plants visited, SPC was not being applied as well as by our prime suppliers.

The current intensification of SPC activity was then triggered off when, in spring 1989, Eric Steenburgh, as senior vice president & general manager, D&M/MO, issued a requirement that SPC activity should be applied extensively in assembly and parts fabrication.

This was followed up with a directive that SPC should be expanded across all product lines and operations by 1 June this year.

Pete Jennings, manager, manufacturing quality, was appointed site SPC 'champion' and he formed an implementation team to tackle this major challenge, with trade union representatives providing

support.

As the total project moved on, it became increasingly difficult to cover all areas. So the project was split into two, with Pete chairing the production side and business quality manager Ken Jervis chairing the business side.

Pete and Ken, along with quality engineer Nick Hopkinson who is SPC co-ordinator, attend each other's fortnightly team meetings. And since each team member is required to lead an SPC project in his area, these meetings provide an opportunity to share information about progress across all functions.

As with Leadership Through Quality, everyone on site is required to receive training, which is available at three levels.

There is the SPC computer-based training in SMIP (statistical methods for improvement in performance) with text reading. Designed for managers, inspectors and key operators/individuals, this involves up to 20 hours' studying in the Open Learning Centre.

Alternatively there is three-day classroom SPC training, which utilises all skills and encourages debate.

"We've had a good mix of industrial, commercial and management staff at these," says Ken.

On successful completion of either of these types of training each candidate is awarded a Rank Xerox diploma, signed by Brian Buckland.

It was site director David Stokes, however, who signed the certificate when Brian did his SPC course, which, he said, "was of the highest standard. This was

not the first statistical training I have had, but it was undoubtedly the best.

"Nick, Ken and our other trainers have done an excellent job in simplifying what are quite difficult concepts to grasp."

For many people, an awareness package lasting 1½ hours and adapted to their needs is sufficient.

In assembly we have had a form of SPC in place for some time with the measurement of, for example, DPHM (defects per hundred machines) and other 'attributes' — data which is positive and countable.

Now we have additional process control of 'variables' — data that consists of measurable characteristics such as torque, speed, distance and other values that the process has produced.

To begin with, capability studies are carried out to ensure that the manufacturing process is capable of consistently achieving the engineering specifications. (Nick has been carrying these out over the past year — "I did 74 checks on one model alone," he told us.)

Once capability is proved, control of the process can commence. That involves checking a small quantity of machines each day to see how much and how often the characteristics vary in relation to previously calculated control limits and taking corrective action.

In assembly areas, quality inspectors record the results on control charts so that they, and everyone else, can see any adverse or favourable trends.

Any out of control conditions, and the action taken to correct them, are logged on the back of the charts.

Chris Rawlings, new build quality manager, told us that they have something in the region of 50 control charts — measuring values like top edge registration magnification, optical and processor alignment, and copy quality — on display in assembly areas.

"It provides much better visual feedback to operators about the quality of their work," he says.

Added inspector Mike Wall (5046 assembly), "If there's an adverse trend, nine times out of ten it is tooling that is at fault. But you do tend to see more variation when there's a new operator, and the answer is to retrain.

"Some people seem to think

they should keep their performance steady on the middle line between the upper and lower control limits, but it's quite OK for it to waver — just like a normal heart scan."

The inspectors take the charts to Nick every week and, with the aid of special computer software, he can analyse any trends, recalculate control limits and produce new charts for future use.

Says Nick, "One question people often ask me is: If there's a favourable trend, surely it's a good thing, so why do you need to do anything about it?"

"The answer is: If it is a good thing that's happening, we'd like to have the opportunity to incorporate it into the process."

In refurbishing, SPC implementation is being carried out in two stages. Said Mel Alder, ROS manager: "In the first phase we are placing attribute control charts in the paint shop, dismantle & clean, and also mid volume rebuild lines.

"In the second, we shall look at each of the respective areas in terms of business requirements and apply Leadership Through Quality with SPC techniques to gain improvement."

Sophisticated machines like

the Swedturns and the inertia weld machine (featured in our last issue) have set the pace in parts manufacturing with SPC systems already built into them, while control of variables is being put in place for other processes.

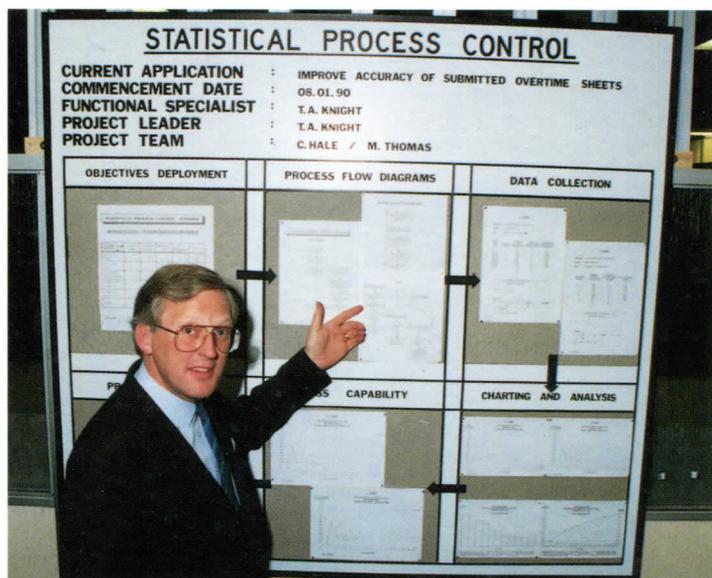
In business areas such as control, materials or personnel, each also has its own processes and procedures to work to.

As Ken Jervis explains, "You have first to understand the key deliverables of the area, then use SPC tools like data collection, pareto charts, cause and effect diagrams and histograms to study the processes used so as to improve output or eliminate waste."

As a pilot project, Trevor Knight, control's SPC specialist, set up a QIP team to improve accuracy in submitted overtime sheets, looking at non-conformities, type and number of errors, etc., which have in the past resulted in claims having to be rejected.

Communicating with managers in all areas and explaining their requirements have now reduced the number of queries and errors dealt with by payment operations.

Even the process used to solve



Trevor Knight, control's SPC specialist, points up the process flow diagrams used in a project for improving accuracy of submitted overtime sheets.

problems has shown variations and benefited from SPC.

Steve Dolton, who is dealing with the business side of technical services, has led a project on 5046 level 1 CCA activity.

The team investigated the reasons for too many problem sheets over five days' old within level 1 CCA and identified special causes of variation, such as the move of a section manager,

or a problem sheet lost.

Changes were made in the process flow, with meetings held daily to ensure effective corrective action close-out at level 1 and "within a month we got problem delays right down," said Steve.

These changes are now being implemented by section managers throughout the whole site.

BOM team report clear benefits

OUR BOM (bills of material) — a kind of materials 'family tree' — badly needed pruning if it was to continue to yield quality results.

Thanks to the efforts of a QIP team whose project was selected for presentation to ORM last February, more than 100,000 unnecessary BOM and part records have been removed, and a set of 'self pruning' procedures put in place to avoid a further build-up of redundant data.

Computer processing times have been reduced by up to 80 per cent and BOM enquiry look-up times have been halved.

The basis of the requirements planning system at Mitcheldean, the BOM records all parts and assemblies required to manufacture new build and refurbishing products, harnesses and parts manufacturing assemblies as well as spares — down to 'buy level'.

It is derived from authorising documents which issue and change parts as necessary. All parts are linked via next assemblies to form the 'family tree' structure including quantities off, percentages, issuing document numbers and part details.

The problem was that data was being added all the time, while redundant data, even that relating



BOM Reduction team members Pauline Jones, leader Bob Farnham, Joanne Davis and Chris Cinderey get down to discussing obsolete refurbishing records.

to products we were no longer building, had not been removed since the introduction of the new materials system (MMCS) in January, 1987.

Said Bob Farnham, file control section manager, "While we were developing MMCS, deletions had a low priority — the important thing was to get the new system up and running. As a result, the BOM was in danger of running out of space."

About 18 months ago, Bob set up a team consisting of Joanne Davis (file control), Chris Cinderey (refurbishing), Martin Haines (harnesses), Roy Watkins (MIS) and Pauline Jones (cost office), their prime objective being to provide a more manageable system.

"We looked at each group of products or assemblies, established whom they 'belonged

to,' referred them to the relevant areas (new build, refurbishing, etc.), and obtained their agreement as to what could be deleted."

The team then developed clearing programs for parts and assembly components — a whole set of rules and regulations which ensure that records no longer needed are automatically deleted from the system at regular monthly intervals.

The team also made provision for reinstating data after cancellation should this be necessary, and ways of reloading the system without too much effort were devised.

The whole system went live at the end of 1988 and results have exceeded all targets.

The team had aimed to reduce data by 40 per cent.

In fact, the reduction of BOM

usage linkages amounted to 62.5 per cent — "If we hadn't deleted any records, instead of the 74,500 records on file as at January 1990, we would have had 160,000," said Bob.

The actual number of records on the part file, in turn, has shown a 57 per cent reduction over the same 15 month period.

Spares proved to be the biggest 'product' affected — a great many redundant spares assemblies that had been on file for years were shaken out, along with other dead wood.

The clearing programs run monthly are proving effective in keeping up the good work. "We knocked 1,500 items off at our last one," Bob told us.

"In addition, we re-assess products for cancellation every six months in the light of our own knowledge and we're investigating further reduction opportunities."

All this has made room for new data to be added, and resulted in significant savings in time and money.

MMCS interfaces with other Xerox systems. And since MMCS users include 'just about everybody', not only on site but also at other company locations in this country and overseas, the team's achievements are proving of widespread benefit.

They've opened windows on engineering

THE AIM was to give secondary schoolchildren who were starting to consider their future careers an insight into engineering as a profession.

Janie Phelps and Jerry Hatch were so successful, however, that they were in danger of being poached by the teaching profession!

Two regional organisations — SATRO (Science & Technology) working in conjunction with ECRO (Engineering Council) — and careers teachers were recruiting young but experienced engineers for their 'Opening Windows on Engineering' scheme.

Janie and Jerry were nominated by us, partly because they had both left school within the last ten years and could therefore relate better to the pupils, and partly because they demonstrated that engineering was a profession in which either sex could succeed.

"We didn't have time to put forward separate presentations, and as our jobs are so similar it made sense to do a joint one," explained Janie.

There was a one-day training course in Bristol, attended by the representatives from other concerns, at which they were given some guidelines.

The commitment was for a year with a minimum of four visits to different schools, and their first, on 14 February, was to Berkeley Vale Community School as part of its careers convention.

A careers master sat in on the presentation along with some of the other presenters and a SATRO representative was there to assess their performance.

Little wonder they felt apprehensive as they faced the class of about 20.

They had decided on getting lots of pupil participation. Janie had had experience in training 16 to 17-year-olds but, as she pointed out, "These were a younger age group and you had to work hard to hold their attention and keep it."

"This was more easily done working as a team," added Jerry. "As one of us wrote on the blackboard, the other would do the talking; if one dried up the other would pick up the thread."

"We kept it low key throughout and avoided very technical terms."

First they introduced themselves and explained briefly how they had come into engineering — Jerry via apprenticeship followed by two years on the production line ("The best grounding you can have" he maintains), Janie by way of the YTS scheme and then apprenticeship (see feature opposite).

Then they got two-way communication going.

The class all knew Rank Xerox made photocopiers but they didn't realise we marketed a whole range of office equipment and systems. And while they'd heard of Mitcheldean they didn't know of our other locations, so the slides borrowed from the employee induction package came in handy.

It was a splendid opportunity for promoting Rank Xerox, and the 1012 desk-top copier our engineers had taken with them made an excellent impression in more ways than one. "The children were delighted to have 'hands on' copies to take home, and we took out the drum and the cartridge to show how the photocopying process worked," they said.



Janie Phelps and Jerry Hatch get ready for the presentation.

"We talked about our recent millionth copier celebration and quoted from David Stokes' address, reported recently in 'Vision'.

"Comparisons like 'If all the million machines built at Mitcheldean were placed alongside one another, they would reach to Land's End and back again' gave the class a novel angle on our products!

"They made a good guess at the cost of a copier like the 1012. But when we told them how much it cost Rank Xerox to manufacture its products there were gasps of astonishment," reported Jerry.

"Their perception of what an engineer does was pretty wide of the mark too," added Janie. "Obviously they thought of engineers in terms of mechanics who grappled with the workings of cars and washing machines.

"This gave us the chance to explain the many facets of engineering — design, production, quality and so on."

Jerry said, "We told them how costly line stops were and explained how our job was to ensure that the parts we buy in arrive in a fully functional and satisfactory manner.

"We told how we use the problem solving process every day and how we work with suppliers to prevent problems arising."

It was a measure of how good

a selling job they did for their profession that, when they asked "Anyone thought of becoming an engineer?", all but two of the class put up their hands — and that included the three girl pupils (obviously Janie's presence had had a very encouraging effect).

The would-be engineers were advised they would need to study maths, physics, English and another European language and they heard about the advantages they could expect — travel, a good salary, variety and challenge.

Janie and Jerry expounded the Rank Xerox philosophy of satisfying the customer — and teamwork. Both spoke of their job satisfaction and said they could genuinely recommend engineering as a career.

In a quick round-up at the end they fielded various questions ("How much do you earn?" "How much holiday do you get?"), and afterwards they compared notes with the other presenters on how the presentations had gone.

Both felt they had learned something themselves from the experience; and the thought that they might have set some youngsters on the path to a satisfying career in engineering was a reward in itself.

Thank you for lending them

IN A letter of appreciation from Berkeley Vale Community School, John Graham (careers department) congratulated our two SQA engineers on "a brilliant performance. It is especially pleasing to find young people to whom our youngsters can relate, particularly as lady engineers are so scarce."

"Jerry and Janie," he continued, "were exemplary in the way in which they had prepared the material and built into their programme fun activities rather

than relying on the pupils sitting and listening quietly — and getting bored in the process!

"If Jerry and Janie ever tire of engineering, I would suggest they consider teaching engineering or CDT (craft, design and technology) where schools are desperately short of staff.

"Meanwhile, they are a credit to your firm, and did a great deal to raise the image of engineering. Thanks for letting us 'borrow' them!"

Janie — an engineer by accident

JANIE PHELPS had always wanted to be a policewoman. "I became an engineer by accident," she says.

Unable to get into the force, she decided to try the YTS scheme and applied for a clerical placement at Mitcheldean.

But in view of the fact that she had done maths, physics, metalwork and languages at the local grammar school, she was persuaded to opt for YTS engineering training which led to her gaining an RX apprenticeship.

"I wasn't too keen," Janie admits frankly. But now she's sure she made the right decision.

Janie is the third female engineering apprentice we have had at Mitcheldean. She was taken on in September 1983, by which time her sister Mandy had also joined our YTS scheme.

Both she and Janie assisted with the staging of an RX stand at the Cinderford technical college the following spring, which demonstrated what training under our YTS scheme could achieve.

Mandy contributed a toolbox she had made, Janie a question-and-answer hand-out in which she set out many good reasons for joining the scheme, based on her own experience.

(Mandy later took up a job in the wiring section for a time, and is now married with two children.)

Having achieved an HND at the completion of her apprenticeship, Janie went into the training centre and assisted

with the development of young people, passing on skills she herself had acquired only a short time before.

Then product training on the 10 Series brought a unique opportunity — to go to Egypt in April 1989.

"I went out with training officer Dennis Duke, product engineer Mike Salmon and Fred Niblett (tool inspection) and we spent two weeks there training Egyptian operators on the 1025.

"We commuted from Cairo to 6th of October City, out in the desert. It was a never-to-be-forgotten experience and the people were fantastic!"

Janie is slim, but she came back even slimmer, having lost half a stone. She saw the pyramids at Giza and other tourist musts, but declined the experience of riding on a camel.

More opportunities for travel opened up when a year ago she made Mitcheldean history by becoming our first woman SQA engineer.

She did the obligatory SMIP course and was on the corrective action team for some time. There were no problems fitting in with the rest of the all-male team — "They were great" she told us.

But when she started going out on the road, did she come up against any male chauvinism? we asked.

"Not really — though someone did explain to me what a drill was! Firms sometimes think that because you are a female you don't know what's what. That actually has its advantages because they explain more to me and I end up knowing more fully about their activities."

Her work can cover commodities ranging from plastics to electrical components, and the suppliers she has been dealing with are based all over the country, from Lancashire to Hampshire, Milton Keynes to Monmouth, as well as one in Eire.

"The Milton Keynes company have a counterpart in Germany, near Düsseldorf, which has led to my doing a quick trip to mainland Europe."

SQA engineers work with suppliers to analyse and qualify the manufacturing and control processes used by the latter to produce parts. When a part is 'process qualified', then production batches may be shipped direct to any Xerox production facility without goods receiving inspection.

Such work calls for good interactive and communication skills — the ability to work with people of all levels, whether it be a quality manager, production staff, or even the managing director.

"If it's a new supplier, we



Brian Jannetta, Neil Jenkins and Tony Gattuso.

Progressing in three directions

CAPPED AND gowned, three former engineering technical apprentices from Mitcheldean received their diplomas at a graduation ceremony in Birmingham Town Hall in March, having completed an HND course in electronic engineering and computer technology at the City of Birmingham Polytechnic last year.

Checking on how they had progressed since leaving college, we found all three assisting with key activities on site within the different branches of engineering they had chosen.

Tony Gattuso, a manufacturing engineer, has already been involved in various projects.

As a member of the 5018/28 technical support team he acted as co-ordinator for an international workshop in connection with translations for labels and electronic messages for a new product.

More recently he has been helping with 5012/14 IAP conversion, and he has now joined Peter Street's European Integration team.

Brian Jannetta has gone 'down the quality track'. One of the first people to do a SMIP course, he has assisted Nick Hopkinson with the expansion of SPC, helping to

train others in the Open Learning Centre.

Later he has worked with quality systems manager Bob Reid on preparations for the D&M/MO audits. "Quality engineering gives me the best possible experience because it familiarises me with business as well as production operations," he told us.

Both Brian and Tony have embarked on a NEBSM certificate course and recently exercised their leadership skills playing war games (see page 12).

The son of Wilf Jenkins, one of our maintenance electricians, Neil wanted to get into the computer systems side and successfully applied for a job in MIS.

M2000 projects — writing computer programs for on-line transactions (the operator materials pull system) and the computerisation of flash test recording — plus other applications work necessitate a great deal of involvement with users and "I'm kept pretty busy coping with queries," says Neil.

All three are happy with their career progress and appreciate the support they have had from more experienced colleagues.

carry out a survey to see if the company is capable of producing quality parts for Rank Xerox," Janie says.

"With existing suppliers, our work involves drawing reviews, quality plans, SPC, etc., prior to the delivery of parts.

"Sometimes if there is a problem with a part I go down on the line here and work with the corrective action team investigating the matter."

There's a great deal of driving up and down the motorways and

lunches are rushed affairs.

But when she's on site, she is only too pleased to see any YTS youngsters she used to train and go through their homework with them. "It's a refresher for me, and I enjoy helping them."

Janie is planning to buy a cottage and refurbish it in her leisure time — but not entirely by herself.

Both her father and brother are builders and "I shall keep an eye on the quality of the work," she laughs.

Full circle

MANY WILL recall Debbie Lowen, our very first girl apprentice at Mitcheldean.

After gaining her HND, she was placed in the electronic workshop. Then came cuts in the workforce and she took various jobs outside before returning as a contractor in PQA.

Now we hear she has become a lecturer in the engineering department at GlosCAT and among her students is Jonathan Barlow, one of our 1989 intake of trainees, who is doing an electrical course in the training centre.

Back in the black **One singer. One song.**

FIGURES WERE on most people's minds on Tuesday, 20 March — Budget Day. And budgeting was the main topic again in the evening, when the Sports & Social Club held its AGM.

Chairman Geoff Duggan was delighted to announce that, despite the present climate, the club had come from £13,000 in the red to £8,500 in the black — an indication of the good job done by the committee and staff over the past year.

The last time the club had made a profit was in 1986.

While there had been no major expenditure, improvements had been effected during the year in the way of replacements and renovations, reported secretary Nora Powell.

New carpet tiles had been laid in the passageway to the bar and lounge, replacement kitchen units had been fitted (the result of an insurance claim), and a new industrial microwave oven had been acquired to improve the service during lunchtimes.

More money would have to be spent, however, to comply with new hygiene regulations coming into force; and plans were underway for the erection of a partition in the snooker room, which meant the loss of one table but gave the club much needed storage space.

New outside doors had been fitted and the exterior of the club was to be painted (a task undertaken by the company). The children's play area had been set up with seats and litter bins and it was hoped this facility would be used and enjoyed this summer.

The committee were constantly negotiating with

suppliers for better discounts, reported treasurer Dave Lea, and many contracts had been cancelled or renegotiated with considerable savings.

Close monitoring of the staffing had also worked wonders in controlling the wage bill which, at the end of the year, was some £8,000 less than in 1988.

On the income side, every area finished with a profit, and some accounts had been switched to earn a higher rate of interest.

The committee undertook to consider a change of accountants with a view to reducing charges.

Acknowledging the good work done by the committee and staff, Geoff Duggan appealed to the membership to respond by giving more support for functions organised.

Two suggestions for helping to improve attendance were put forward by Pete Griffiths — the provision of minibuses transport and the creation of a walkway from Eastern Avenue to make the club more accessible from the village. The committee promised to look into this also.

Richard Morgan and Chris Warren were each offered life membership in recognition of their services.

Officers were re-elected as follows: *chairman*: Geoff Duggan; *vice chairman*: John Howls; *treasurer*: Dave Lea; *secretary*: Nora Powell.

Geoff and Richard continued in office as trustees and John Gurney was elected in succession to Ian Laskey.

Phil Collins, Sean Grant, Chris Warren, Mike Manns and Chris Reed make up the rest of the committee.

Obituaries

THE OLDEST of our retired LSA members, Ray Camp, died on 28 March at the age of 86.

Ray joined the laboratory workshop of British Acoustic Films in London in 1933 and in the early '40s was one of the pioneers who moved to Mitcheldean when the company was engaged on Government contract work.

He worked on film projectors for both professional and amateur use in the 'experimental lab,' later renamed the model shop, and it was while Ray was manager that the department was given the job of constructing the initial 914 machines.

He was a prolific source of ideas and some of these led to significant improvements in the company's products, both Bell & Howell cine equipment and later Xerox copiers.

He was a founder member of the Mitcheldean LSA and had been its first secretary and later its chairman. He was also chairman of the Sports & Social Club for many years.

Ray retired in 1968 after 35 years' service; among the hobbies that kept him occupied was that of making and repairing clocks.

Fred Oliver, who died on 20 February within a few days of his 60th birthday, had been on FR&T in 4000 assembly and he was working at Lydney on the 2300 model when he retired after 19 years' service. He was a retained fireman at Cinderford and after leaving us he did various jobs, most recently being a driver for a car hire firm.

We would like to express our sympathy with their families.

One singer. One song.

YOU NEED something special to get people to be quiet in a pub.

Bill Walters, an inspector in refurbishing assembly, obviously has that 'something special'.

He's been singing folk songs in pubs since he was old enough to go into them, though it takes real ale to persuade him through the door (which possibly accounts for his rich tones!).

"Most folk singers have a pint inside them," he says. "It helps to lubricate the voice and adds to the atmosphere. But I never take enough to make me go off key or forget my words."

The words are all-important, for Bill sings unaccompanied. Since he started singing about 25 years ago, he has collected some 200 folk songs.

They reflect our history in the life and work of ordinary people and Bill, like other folk singers, is helping to keep them alive.

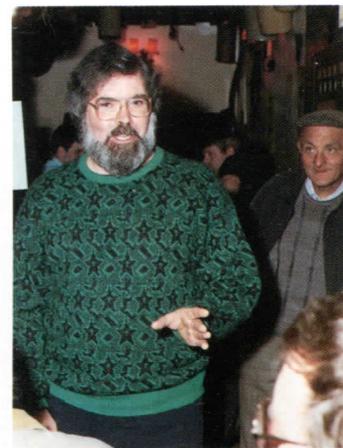
Now Bill's gone solo on cassette with 'One Singer. One Song'. And the reason for his choice of title?

"When I first went into pubs, competition was rife. You'd get someone singing one song, and another singing a different one. I remember it all got too much for a certain chap and he suddenly stood up and shouted 'One singer. One song!'"

"I felt it struck just the right note for my cassette."

This is not the first time Bill has gone on record. He did an earlier recording with the group 'Something Stirred' — but people kept telling him he ought to get his solos down on tape.

Then he met local recording engineer Barry Woodley of



Bill Walters strikes the right note.

'Sounds Alive', who used to be a forklift driver on site. He did the recording in Bill's home and Terry Darrington, a refurbishing colleague and RX Camera Club chairman, took a photo for the cover in the Red Hart at Blaisdon.

Among the dozen songs on the cassette is one written by another RX colleague who is well versed in the Forest dialect — Rob Miles.

Rob, who is featured in our cover story, has in fact written over 100 Forest poems and he offered to write one for Bill to sing.

Entitled 'Vorest Miner' it strikes an authentic note, for Rob comes from a mining family.

"I showed it to Doug Maclean of the Forest Bookshop; he was very impressed and he wrote the music for it," said Bill. "I've put my best songs on cassette and this was a must."

Bill's range is considerable, not only in his songs and his voice but also in the area he covers.

He is booking secretary with the Forest of Dean Folk Song Club, but Bill is actually a Hereford man, and he was among the guest artists in the Ledbury Folk Fayre held the week before Easter.

"A good voice and damn good songs" are his recipe for a folk singer's success. He certainly has both.

New links with local schools

OUR LINKS with local schools are continuing.

Keith Butcher, science teacher from Heywood School, Cinderford, is with us for the summer term, shadowing managers in various departments, while a group of primary school teachers are visiting us to prepare industry-related resources to help support aspects of the National Curriculum particularly in design & technology and science. What they do will be used as a model nationally.

Any news for Vision?

If you have, then please — mail it to me in bld. 6/2, or leave it at any gatehouse for collection by me,

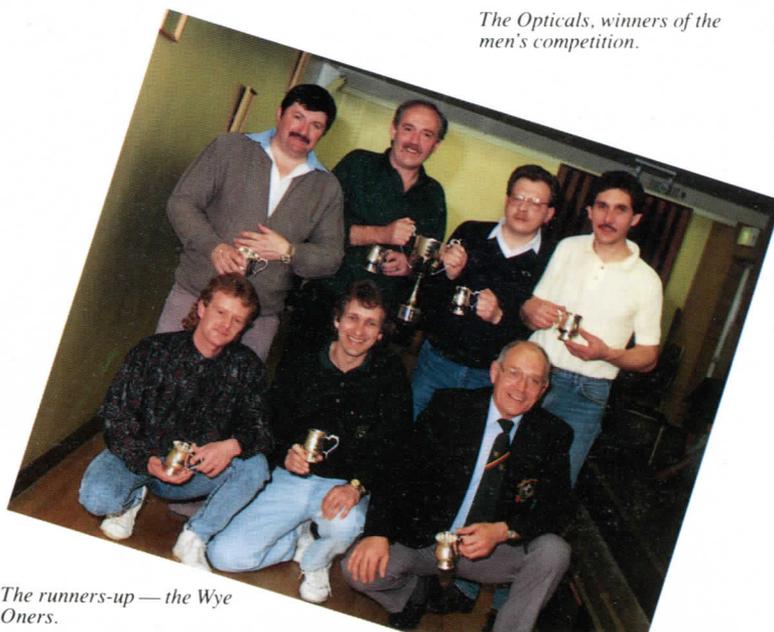
or post it to me at Tree Tops, Plump Hill, Mitcheldean GL17 0EU.

or ring me — ext.566 or Dean 542415.

Myrtle Fowler, editor



The Panduit Girls won the ladies' team finals; runners-up were the Dillies, pictured below.



The runners-up — the Wye Oners.



Our cup finals

A LOCAL lad who is a possible future World Cup rugby player — he's now in the 1995 Cup squad — presented the trophies at the finals night of the Rank Xerox Business Park Interdepartmental Skittles tournament on Saturday, 21 April.

Julian Davis, England Under 21 scrum-half, had that very afternoon been helping his club, Bristol RFC, thrash Newport by 23:13.

His brother Andrew, who works in dismantle & clean section, came along with him to the finals as 'prop' (a position in which he plays for Bream RFC who, as he modestly says, are "not quite in the same class as Bristol.")

Everything went smoothly, thanks to the organising abilities of Chris Warren (PED).

In the ladies' team finals, the tables were turned when last

year's winners, the Dillies (Hygiene Services) led by Joan Boseley, were beaten by a harness assembly team — Panduit Girls — who, under their captain Dawn Lark, won the Sadie Pritchard Cup with a score of 194 to 181.

In the men's competition, the Opticals won a resounding activity with a tremendous score of 243 (one of the highest throughout the tournament) against the Wye Oners' 208.

The Opticals, who had lost their captain Sid Cooper through injury (though not through skittles), were led by John Walby on the night, while Phil Collins captained the runners-up.

Playing for the first time in the Business Park contest were Gardner Merchant, whose Carol Ridler gained the David Stokes Perpetual Shield for the ladies individual event, beating last year's runner-up, Ellen Baldwin

(finance), into second place by 36 to 33.

The men's individual semi-finals were played on the same night as the finals and with Chris Warren and Mike Gurden (5046 assembly) knocked out, Terry Wood (refurbishing) fought it out with Steve Giles (5012 assembly), Terry emerging winner of the David Stokes Perpetual Trophy with 37 against Steve's 29 pins.

Harold Ennis of the Wye Oners made a splendid 60 (one of the biggest scores ever) to become highest scorer in the whole tournament, while Marice Pick (spares packing) was top lady scorer, each of them improving on last year's highest scorers by one pin respectively.

Sports & Social Club chairman Geoff Duggan expressed thanks to all concerned in the tournament, in which 53 teams took part, not forgetting the

stickers-up — Adam Trigg and Darren Whitney.

Then it was back to the alley for team photographs, with Terry Darrington behind the camera and Julian Davis tackling the situation with all the courage and cool-headedness that the England Under 21s demonstrated when they triumphed against Holland a week later.

There was still one more trophy up for grabs — a wooden spoon which Gardner Merchant have donated for the winners of a team 'worst eight' contest, being played off later.

THE CLUBHOUSE did good business on finals night for at the same time celebrations were going on in the function room following the wedding of Tony Pickthall (refurbishing) to Georgina Eamer at Ruardean Hill Baptist Church. Our good wishes go to both.

Left: Andrew Davis came along to support his brother Julian — with them (far right) is organiser Chris Warren. Centre: Terry Wood and Carol Ridler, winners of the men's and ladies' individual skittles, chat with Geoff Duggan, Sports & Social Club chairman. Right: The two highest scorers, Marice Pick and Harold Ennis, are congratulated by Julian Davis.





Paintballers 'shot' by the camera include Mitcheldean's Julian Adams, Jeremy Barnard, Paul Bennett, Barry Clein, Tony Gattuso, Brian Jannetta, Fred Meek, Sean Mills, Joe Orman, Julian Priest and Robert Sargent.

Jeremy Barnard tells of

A weekend of mayhem

WHEN ASKED to arrange their own residential weekend, the NEBSM (formerly NEBSS) diploma and certificate students at Hereford Technical College's location in Ross decided to put classroom theory into practice — playing war games at the 50-acre Mayhem 'Paintball' centre near Hereford.

We arrived at base camp in glorious weather thinking we'd landed on the TV set of MASH — ex-Army tents, equipment caravan and the essential Portaloo.

After a very thorough safety briefing from Martin Atkins, the course director at Mayhem, everyone was kitted up with overalls, goggles, face mask and the essential gun.

We had the range to ourselves for the day's activities, which consisted of a series of defend/attack games, usually diploma vs certificate groups. Each team had to try to capture

the opponents' flag (or variations on this theme) and return it to their own base.

Everyone took it in turns to be the team leader of the exercise. This involved understanding the mission, briefing the team as to the objectives and involving team members in decisions about strategy/tactics.

The leaders were assessed on various management aspects — planning, organisation, confidence, communication skills, re-evaluation of the situation, etc.

So the first warm-up game began, a 30-minute affair with the diploma team at the top of the hill and 'certificates' at the bottom, the task being to pick up a flag halfway up the hill and take it to the opposing team's base.

The whistle went and the teams charged towards the flag.

The guns, powered by CO₂, held ten paint pellets and you soon learned that they went at some speed — 200ft a second, to

be exact. You could see them coming but couldn't get out of the way — they were popping off left, right and centre.

To kill an opponent, you have to burst a pellet anywhere except the head. Head shots hurt (I can vouch for that) . . . but there are worse places in which to be shot.

Four minutes into the game and the certificate team were beaten. One up to the diplomas!

The games continued in similar fashion all day. On the longer games a 'dead' person spent five minutes at base camp and could then rejoin the fun.

Everyone slept well that night — the drink consumed in the bar probably helped a little.

Sunday came, and we pitted our new-found skills against a team of people from Safeway's.

They got the better of us in the warm-up game, but when faced with the task of hitting our targets at the fortress 11 times in 30 minutes, they didn't even get a



Not content with a mask, Sean Mills camouflaged his face as well.

shot at them.

This put us on a high, and it showed during the final game against the marshals, who were reputedly unbeatable.

Everyone had learned by now that crawling in the undergrowth was the best tactic for surprise and survival.

The marshals, armed with semi-automatic £400 rifles, soon worked their way through our first set of ambushes.

For those of us 'dug in' at the flag, the sheer machine-gun noise from the marshals' fire made us all feel vulnerable. The stress was marked, even if we weren't.

They were on top of our flag quite quickly, but our defences were impregnable.

The marshals got frustrated and went all out for our flag, there was a barrage of fire and our final ambush team finished them off. We'd beaten them!

Everybody enjoyed the weekend; we all learned a great deal about ourselves and what it would be like in an actual war.

It's serious and for real while you're on the range — a life or death struggle. You have to think and react quickly to ever-changing situations.

Altogether great fun — and highly recommended! We plan to go again soon.

Xerox paper — and conservation

RANK XEROX is the largest supplier of cut sheet paper in the world.

As such, it plainly has a vested interest in a continuous supply of paper, and that means conservation of the source of raw material — the forests.

How this is being achieved is explained in a new brochure from Xerox Supplies Division, Marlow.

Did you know, for example, that:

- Only about 15 per cent of all wood felled in the world is turned into pulp and hence paper. Most of this comes from the coniferous forest belt of Siberia, Scandinavia, Northern Europe and North America.

- The forests which supply Rank Xerox are managed on a

simple principle of continual renewal. Selected seeds of pine, spruce and fir are cultivated in giant greenhouses and the seedlings planted out in large numbers.

- Thinning is essential to the health of the woodland and it is the thinnings which the paper mills use for pulp production and thence for Xerox paper. The remaining trees grow on to maturity, to be used for sawn timber, construction and furniture. The off-cuts and waste wood from sawmills also go to pulp production.

- Most Xerox paper comes from modern integrated mills; the energy which these use is largely produced by the mill itself burning the residue from pulping.

This produces steam which generates power and heat for the plant and for drying the paper, thus saving on fossil fuels otherwise necessary.

- To cut effluent discharges, the mills recirculate the water used and main chemicals involved are recovered for re-use.

- The chlorine gas process traditionally used for bleaching the pulp — the subject of much discussion on the environment — is being phased out.

- All mills supplying Rank Xerox are continuously engaged in a programme to use even less energy.

- All waste paper from the paper-making machine is recycled. In addition, Rank Xerox actively supports the collection of

waste paper. This is recycled to make packaging materials and insulation products which themselves help to save energy. And recycled paper is increasingly used when the purpose is suitable (eg in paper cartons and packaging).

- In the light of new and improved manufacturing processes, Rank Xerox is exploring opportunities for developing an acceptable recycled paper for use on all xerographic copiers and printers.

As the brochure sums up, the goal is to ensure that Rank Xerox products and services continue to be at the forefront of environmental conservation and protection.

Not just for the benefit of our business, but for the well-being of everyone.