Appeal No. VA88/0/094 - 99

AN BINSE LUACHALA

VALUATION TRIBUNAL

AN tACHT LUACHALA, 1988

VALUATION ACT, 1988

B E T W E E N :

(1) Mitchelstown Creameries
Appeal Nos. 94, 95, 96, 97, 98 & 99

(2) Cork County Council
Appeal Nos. 287, 288, 289, 290, 291,
292, 293, 294, 295, 296 & 297 **APPELLANTS**

and

COMMISSIONER OF VALUATION **RESPONDENT**

RE: Appeals relating to various installations at the industrial complex at Mitchelstown.

B E F O R E

Hugh J O'Flaherty	**S.C. Chairman**
Mary Devins	**Solicitor**
Brian O'Farrell	**Valuer**

JUDGMENT OF THE VALUATION TRIBUNAL
DELIVERED ON 6TH DAY OF DECEMBER, 1988.

By notice of appeal dated 18th day of August, 1988, the appellants appealed against the respondent's determination in respect of the above mentioned hereditaments.

The appellants own and operate a large industrial complex in Mitchelstown, Co Cork. Dairying is the major part of their business but the trading division generates a large turnover; the appellants employs an average work force of 1,800. There is a milk factory, butter factory, cheese factory, grain mill and other grain installations. The appeal numbers, their locations and the references to photographs and plans put in evidence are as follows:

Appeal No: Mitchels-town	**Appeal No: Cork Co. Council**	**Description**	**Map (Nos)**	**References: Appellants Photos**	**References: Commissioners Photos**
96	294	Limerick Road Grain Installations	1 & 4	1 to 4	D & E
94	287	Clonmel Road Grain Installations	2	5 to 10	F
95	293	Castlefarm Milk Installations Milk Powder Factory	3	11 to 15	B
97	291	Clonmel Road Milk Installations Cheese Factory Castlefarm Milk Installations Butter Factory	2 & 5	16 to 19	A
99	297		3	20 to 22	-

What falls to be determined in these appeals is whether certain installations belonging to the appellants are exempt form rating.

Quantum is not in issue in any of the appeals brought by the appellants.

By separate notices of appeal, Cork Co Council appealed in relation to quantum but these appeals were, ultimately, not pursued but the Cork Co Council was represented at the oral hearing as a notice party to the appeals brought by the present appellants.

PRE-HEARING SUBMISSIONS

On behalf of the appellants, Mr Desmond M Killen F.R.I.C.S. A.R.V.A., who is a Fellow of the Society of Chartered Surveyors and is a director of Donal O'Buachalla & Co. Ltd., presented his written submission on 14th November, 1988.
In the course of his submission, Mr Killen pointed out that all the appellants plants (milk factory, butter factory, cheese factory, grain handling plant and mill) were registered under the Factories Act, 1955 and are subject to annual inspection by personnel from the Department of Labour.

They are industrial undertakings and each a manufactory, as defined in Section 7 1(a) of the Valuation Act, 1986 - Amendment to Section 7 of the Act of 1860. His submission was that none of the items could be viewed individually or piecemeal. Each is an integral and necessary part of an integrated and continuous process of change. The entire run of plant has been designed and constructed to induce a process of change in the raw material beginning with the intake of raw liquid milk and that all items of plant, the subject of these appeals, were designed and constructed for the purpose of achieving this primary end and function and should, therefore, be excluded from the rateable valuation.

Mr T. Murphy B.E. is a member of the Firm E.G. Pettit & Co, Consulting Engineers/Architects, Springville House, Blackrock Road, Cork.

In the course of his precis of evidence he dealt with the grain bins and silos and various milk and whey tanks. These are located at 4 different sites, namely:-

Grain handling facilities at Limerick Road.
Grain handling facilities at Clonmel Road.
Cheese factory at Clonmel Road.
Powder and Butter factories at Castlefarm.

DOCUMENTATION

This evidence should be read in conjuction with the following drawings:-

Drawing No. 1	Site Plan - grain handling facilities at Limerick Road
Drawing No. 2	Site Plan - grain handling facilities and cheese factory at Clonmel

	Road.
Drawing No. 3	Site Plan - powder and butter factories at Castlefarm.
Drawing No. 4	Flow diagram and grain bin cross section at Limerick Road.
Drawing No. 5	Typical cross sections through grain bins and milk silos.

The items under appeal are marked in colour on the various site plans, and the map references are shown in the legend on the drawings.

An album containing 22 numbered photographs of the various premises and facilities is to be read in conjunction with his evidence.

His observations on the various facilities are set out below:

GRAIN HANDLING FACILITIES AT LIMERICK ROAD

Description of facilities

The installation at Limerick Road is a grain handling and drying facility. It consists of 16 No. 625 tonne flat bottomed aerated grain bins together with associated handling plant.

The handling plant is located in the machinery tower at the south end of the site. Within this machinery tower are housed the intake facility, a grain screening plant, dust extraction plant, distribution conveyors and elevators, a grain dryer, intermediate holding bins, and miscellaneous conveying spouting and ducting.

The 16 No. bins are arranged in two groups of eight. Each bin measures 12m x 10m x 7m high. Each bin can hold 625 tonnes of wheat. The bins are constructed of concrete foundations, a suspended mesh steel floor, and steel walls. The steel walls span horizontally between structural steel columns. The tops of the bins are open. Between each pair of bins is a central duct, in which are housed aeration fans. Aeration is provided by 8 no. 13.5 HP centrifugal fans. These suck in air from outside the building and blow air through the contained grain in the bin. Due to the floor of the bin being a complete mesh, aeration over the entire floor area is possible, i.e. all grain is aerated. As will be described later, this is significant, as this design enables grain at very high moistures to be treated in these bins, the only bins of their kind in Ireland.

Above the bins a penthouse consisting of a structural steel frame with asbestos cladding to side walls and roof, is provided. This penthouse sits on top of the bins. Between each cluster of 8 bins there are central walkways for access to the bin tops and to the filling belt conveyors.

A typical cross section through the bin construction may be observed on drawing no. 4.

A feature of the filling mechanism for the bins is that grain is distributed by means of overhead belt conveyors into each bin at the area nearest to the centre walkway. The grain is then spread out evenly over the whole area of the bin, by means of a special device called a mobile scalper conveyor. There are two such devices, one for each block of 8 bins. They can travel the entire length of the 8 bins by means of a mobile crane over.

The level of the conveyor may be adjusted by the mobile crane to suit the level of grain in the bin. The suspended scalping conveyor then distributes the grain evenly over the entire area of the bin.

When the bins is being emptied, the distributing conveyor is reversed. When the outlet slides are opened, the scalping conveyor then directs the grain back towards the central belt conveyor under the centre walkway and enables the entire bin to be totally emptied by mechanical means.

Processing facilities

Under the equipment previously outlined and shown on the drawings and photographs, the following processes can be carried out, using the handling equipment and bins as an integrated system.

Intake of materials
Sampling of materials
Grain Drying
Dust extraction
Aeration
Turning
Mixing and blending
Cleaning/sieving
Temperature control
Outloading to lorry

All raw ingredients are delivered by lorry and taken into the plant through an intake hopper, 2 no. conveyors and elevator no. 1. By means of the various valves, conveyors and spouting, the grain can then be routed to the grain dryer, the grain cleaner, or the bins.

The application of power by means of the conveyors and elevators is required for the intake of materials.

All materials are sampled as they enter the complex. Such samples are then sent to laboratory for analysis. They are tested for moisture, bushel weight, particle size, quality etc. Further tests may be necessary on occasions for protein, oil and fibre content.

Grain drying is carried out in the cimbria grain dryer. This is rated as a nominal 30 tonne/hr. machine and is a steam operated dryer. It is a cascade type dryer. The actual capacity of the dryer depends on the moisture content of the grain but generally would average approx. 17-20 tonnes/hr. During the harvest, this capacity is inadequate to cope with the hugh volumes of grain being received. Depending on the prevailing weather, grain may be received at anything from 15-30% moisture. Ideally, barley for feed use should be stored at 15% moisture maximum and malting barley at approx. 13.5% moisture. To achieve these moisture levels over a short space of time by using the grain dryer only, would require enormous grain drying capacity which would clearly be uneconomical. To overcome this problem, (as grain at high moisture content tends to lose condition and quality and turns mouldy and heats etc.), this special type of aeration system was provided in the 16 no. bins.

It will be noted from the flow diagram that all 16 no. bins are capable of delivering or receiving material from intake grain cleaner or grain dryer.

The grain dryers are equipped with 2 no. extract fans which discharge through dust collecting cyclones to atmosphere. Thus there is dust extraction from the grain during the grain drying process.

The grain pre cleaner is also fitted with a dust extraction system by means of a fan and cyclone exhaust system. Thus dust extraction also takes place during the pre cleaning operation.

Aeration may be carried out in all of the 16 no. bins using the aeration fans and ducting system previously described. By means of the aeration system, the temperature of the grain is controlled, and the moisture level is gradually lowered to required levels. The aeration system is computer controlled and fully automatic and only takes place when the temperature and relative humidity of the ambient outside air, are suitable. By means of this extremely sophisticated aeration system, grain can be held at high moistures for an indefinite period, a feature which is unique to this type of bin installation.

It should be noted that the temperature and moisture of the grain in the bin are altered by means of the aeration system.

The process of turning involves emptying the ingredients from one bin to a different bin. Turning may be necessary if the grain temperature is totally excessive for the aeration system and the grain dryer is not available. The more the grain is handled, i.e. it is conveyed, elevated, dropped through bins etc., the more it is exposed t ambient air and thus the more the temperature drops.
It may be noted from the flow diagram that it is possible to turn any bin into any other bin with the handling equipment available in the Mitchelstown complex at Limerick Road.

By means of discharging simultaneously from two different bins into a third bin at a controlled rate of discharge, it is possible to blend materials of different temperatures or different moistures to reduce dangerously high levels. This mixing or blending operation is achieved by controlling the rate of discharge from the two bins to achieve the desired end result. Thus, by means of the bins and conveyors, it is possible to change the moisture content or temperature of a particular ingredient by the mixing operation. The handling facilities at Mitchelstown are ideal for carrying out mixing.

Sieving or cleaning of the grain is carried out by means of the cimbria grain pre cleaner. This is a treble deck sieve type machine, which is capable of separating different sized particles, and routing oversized or undersized or reject materials in various directions. Using the grain pre cleaner and the bins together, malting barley may be screened to correct size in the pre cleaner, and treated for the necessary 6 month incubation period at the appropriate level of aeration in the bins.

Temperature control is carried out on the contents of the bins by means of manual probes. These provide a digital read out of the temperature of the contained material. The temperature can be

taken at any position or level in each bin. Excessive temperatures are dealt with by means of aeration and/or turning as previously described.

Outloading of the bins is by means of conveyors to an outloading station adjacent to the intake. It should also be noted that the bins system has been designed to act as an integral part of a future animal feed mill to be built adjacent to the bin complex.

Comment on the grain bin installation

(a) The application of force by means of mechanically operated conveyors and elevators etc. is required to fill and empty all bins.

(b) Processes occur in the bins as described, i.e. aeration, mixing, turning etc.

(c) The bins would have no function without the handling facilities i.e. conveyors, elevators, etc.

(d) It would be impossible to carry out the processes as described without the use of the bins.

(e) The raw materials are processed and adapted for sale in the bins.

(f) The bins, together with the various handling facilities are one indivisible complex of machinery, and all rely completely on the other for their function.

(g) Mitchelstown have a grain handling complex rather than a storage complex at the Limerick Road. If Mitchelstown had required storage facilities only, they would have constructed flat storage rather than bin storage, i.e. they would have built a large flat grain store. Such a flat store would be built at a fraction of the cost, and would be multi-purpose for use other than grain storage. The Mitchelstown complex is purpose designed and can only handle grain.

(h) The function and purpose of the bins is to prevent a natural or chemical process taking place in the grain which is held in the bins, i.e. the grain would naturally deteriorate and be unfit for use without using the bins to carry out the various processes as previously described.

The facilities at the Limerick Road are shown in photograph nos. 1-4 inclusive.

Grain handling facilities at Clonmel Road

Drawing

All the items under appeal in this area are shown on the site plan, drawing no. 2 and on photographs 5 to 10 inclusive.

2 no. 750 tonne read grain bins

These two bins are flat bottomed bins. They are approx. 11m diameter x 13m high to eaves level. The floor of the bin is reinforced concrete with aeration ducts. The bin walls are corrugated galvanised steel.

A typical cross section through the read bin is shown on drawing no. 5. The bins are filled by means of an adjacent intake system through an elevator and distributing conveyor through automatic slides into the bin. The bin is emptied down to a certain level by means of a discharge augur. The bin is totally emptied using a sweep augur. An aeration fan is fitted to both bins.

In addition there is a separate inclined discharge augur with spout to provide a direct outloading facility to lorries.

10 no. 200 tonne massey ferguson grain bins

These bins are made of galvanised corrugated steel. They are 7m diameter with suspended conical hoppers. The hoppers discharge through valves into a chain and flight conveyor under. They are filled by means of overhead chain and flight conveyors. Each bin is fitted with an aeration fan. Materials can discharge from the massey ferguson bins at 35 tonnes/hr.

Processes using the read and massey ferguson bins

Adjacent to the 2 no. read bins and 10 no. massey ferguson bins, are the intake building and the dryer building. In these buildings are located 2 no. 25 tonne grain bins, 3 no. porteous dryers each rated at 5 tonnes/hr, and 1 rubble separator before the dryers. All these facilities are interconnected to the 12 no. bins by means of conveyors and elevators.

Thus, using these handling facilities together with the 12 no. bins, it is possible to carry out the following processes, all of which have been previously described in the section relating to the grain handling facility at the Limerick Road.

Intake of materials
Sampling of materials
Grain Drying
Aeration
Turning
Mixing/Blending
Rubble separation and sieving
Manual temperature control
Outloading.

Mr Michael McNally B.Ag.Sc. is Grain Manager with the appellant company, a position which he has held for seven years. In the course of his precis of evidence he dealt with the Limerick Road grain complex and the grain complex at Clonmel Road. His observations were as follows:

The Limerick Road grain complex consists of:

1. 16 x 625 tonne silos (10,000 T)
2. Cimbria dryer.
3. Belt conveying bucket elevator system.
4. Mobile scraper conveyors.
5. Total mesh floors aerated by twin centrifugal fans.

The complex is the only one of its kind in Britain and Ireland. It is unique in that it can hold very high moisture grain in good condition for long periods due to its mesh floor design.

The main function and operation of this complex is the intake, conditioning and handling of malting barley for export market, mainly to Germany.

Malting barley is sold to maltsters on continent to stringent specifications briefly as follows:

1.	Germative Energy	95% minimum
2.	Moisture Content	15% max
3.	Protein	11.5% max
4.	Screenings	90% over 2.5 m.m screen

The green malting barley received from farmers has to be conditioned and processed to meet above specifications or else large penalties are incurred by the processor.

Malting barley is a very delicate commodity when green, and any flaw in its handling, i.e. overheating, will kill or diminish its germative energy (its ability to produce malt) and render it useful only for animal feed, and so incur big financial loss.

When malting barley comes off the field it has 100% germative capacity (i.e. potential to reach 100% germative energy, the difference is dormancy). As the maltster requires 95% germative energy, the margin for error in processing this green grain is only 5%.

The main function of Limerick Road complex is to achieve this 95% minimum germative energy.

The process consists of intake of green malting barley to silos as quick as possible, where it is aerated and maintained in good condition until dryer becomes available. The grain is dried slowly at low temperatures (40^{o}C) and cooled to 15% moisture and transferred to silos where it is held in this condition by checking temperatures daily and introducing air at right time and by transferring grain from one silo to another to keep it cool and in good condition.

The grain is then screened and small grains diverted to separate silo and full specification malting barley is transferred to special silo.

At this stage barley is checked for germative capacity and germative energy. If the germative capacity is 95% it has the ability to reach 95% germative energy, even if at this early stage of processing the germative energy is only 20%.

The process after drying is to induce malting barley of 20% germative energy to reach 95% (i.e. to break dormancy without killing germination) over two to eight month period, depending on variety of barley.

This is done by stringent monitoring of temperature and humidity of barley and introduction of air at right time. This complex is unique in that 100% of grain receives air through mesh floor system and this is most important factor in reducing dormancy in grain. Also, grain is moved from silo to silo to induce this.

As green barley varies in protein content, screening, germative capacity depending on soil type, time of harvest, etc., various silos vary in these specifications. As maltster requires a

homogenous produce it is often necessary to blend barley from certain bins to achieve homogenous product e.g. one may have grain of 98% germative energy and another of 94% germative energy - by blending the two bins you achieve 96% and so well within specification. This can be done very accurately in this complex which is unique. Also, barley can be blended for protein and screenings.

The grain complex at Clonmel Road consists of:

1. 10 x 200 tonne massey ferguson bins and 2 x 700 tonne red bins.
2. 3 x 5 tonne/hour porteus driers.
3. Chain conveyor and bucket elevator system.

The main function of this grain complex is the intake, processing, conditioning and handling of feed barley.

This complex of silos is located beside the provender feed mill which produces 60,000 tonnes of animal feed per annum. It is an integrated part of the provender mill in that feed barley is processed and matured in these silos until ready for provender mill processing.

The green barley at harvest is placed in silos until dryer becomes available. It is held in good condition prior to drying by aeration at appropriate time and by moving grain from one bin to another.

Barley is dried down to 14% moisture, cooled and moved to appropriate bin where it is aerated regularly and matured for animal feed over period of two months.

Feeding barley when freshly harvested contains low level of vitamin "E", i.e. 2mg/kg. This is a dangerous low level for stock. The barley is mature only when it reaches a vitamin "E" level of 8mg/kg of D.M. This process takes from six to twelve weeks, depending on variety.

The barley is induced to a high level of vitamin "E" by proper environmental control of humidity, temperature and cooling. This is induced in the silo.

Also, fresh barley contains nitrites when harvested, this is lethal to stock if fed fresh. Barley has to be dried and matured by aeration and cooling over a period of one to two months when the nitrites are converted to nitrates and so rendered harmless to stock. This maturing process is induced in silos.

After a period of one to two months in silos the mature grain is conveyed to our provender mill where it is blended with other ingredients like soya and wheat to produce pig ration, dairy nuts, calf nuts, etc. The silos are an integral part of the provender mill.

Mr. Patrick Dalton holds a Diploma in Dairy Science from the National University of Ireland and has been employed as Assistant factory manager in the milk powder plant with the appellants for the past 10 years.

In the course of his precis of evidence he set out that the principal activity of the appellants is the manufacture and distribution of dairy products. He said that it collects about 65 million gallons of milk a year from farmers and processes it into butter, cheeses, dairy spreads, skimmed power, caseine, whey, whey concentrates and protein isolates and sodium caseinates. The milk is collected in bulk tankers from the farmers and brought to the factories wherein the processes commence. He went on to deal with the subject matters of appeals Nos. 95, 99 and 97 as follows:-

MILK POWDER FACTORY - APPEAL NO. 95 (Drawing No. 3 refers).

Milk, when taken from the cow, consists of approximately 12½% solids and 87½% water.

The solids are made up approximately as follows:

1. Fat - 3.5% emulsified in small globules.
2. Protein - 3.3% colloidal suspension.
3. Lactose - Sales, etc. - 5.7% in solution.

The non-fat elements of the milk are known as solids non fat - these include lactose, sale, ash, etc. They are usually referred to as S.N.F.

The fat element of the milk is the lightest element and would always rise to the top - hence the need for continuous agitation and processing. Whole milk is collected from the farms by bulk collection tankers. The milk is sampled and checked for quality before transporting to Mitchelstown. On arrival at Mitchelstown, it is weighed at the weighbridge, it is then diverted to either the Cheese Factory or the Powder Factory.

POWDER FACTORY

On arrival at the factory, the milk is agitated and sampled at the intake base. The milk that comes from the road tankers to any one of four intake silos (30,000 gallons capacity each), (Ref 1), wherein the milk is processed, standardised, blended and agitated. These tanks are lagged and cladded for temperature control and are fitted with sampling valves, level indicators, temperature indicators, air agitation, two-speed mechanical agitators. The composition of the milk from the tankers varies throughout the year. The milk is blended and agitated in order to achieve a standardised homogeneous product, vis a vis, fat, protein and lactose content.

A produce such as skimmed milk powder has a strict specification and, in order to achieve this, it is essential that the material is thus processed, agitated and standardised.

After 20 minutes high speed agitation in the said tanks, the milk is now ready for further processing and will be held under slow agitation in these vessels before further processing. The milk is now pumped to a balance tank in the separation room, from where it is pumped through Plate heat exchangers for pasteurisation and two separators for separation.

We now have two products: cream and skimmed milk.

The skimmed milk is now cooled to 4^{o}C and is then pumped to any one of the nine silos (Ref. 1), wherein the skimmed milk is continually agitated pending further processing. After processing in these tanks, it is pumped to either the Caseine plant or to a milk evaporator.

The milk is fed into the evaporator at 9% solids and is evaporated therein to 50% and then pumped to a dryer. At the start and closedown of the evaporator, the solids in the milk would be ranging as between 20% and 35% solids.
This milk is not concentrated enough at this stage to be sent to the evaporator and so it is pumped to a recovery tank (Ref. 17).

The recovery tank is a jacketed tank with a heating and cooling facility on it. It has a heavy duty scraper type agitator. The recovery tank is an integral part of the evaporating and processing system. The milk, when pumped into the recovery tank, will be cooled down to 4^{o}C and agitated continually.

During the normal process of production of the evaporator, the milk concentrate is heated to approximately 40^{o}C and bled back thereafter through the raw milk being fed to the evaporator, wherein it is concentrated to 50% and fed to the dryer.

The low solid fats are fed to the whey concentrate tanks (Ref. 13 and 14) from the evaporator, (Holvreika 3), when it is used to evaporate whey from the cheese factory. These are lagged and cladded tanks fitted with 2-speed agitation, level indicators, a temperature probe for temperature indication and control. Tanks 15 and 16, wash balance or effluent tanks are utilised in the effluent treatment facility, wherein the contained liquid is standardised, adjusted, agitated and balanced, thereby altering the chemical composition of the content.

The whey tank (Ref. 3) is a lagged and cladded vessel with heating and cooling coils in the lagging jacket. It has a heavy duty scraper agitator. It is a specially designed crystallising tank, used to crystallise whey concentrate by reducing the temperature of the whey in a controlled fashion, for example, reducing the temperature from approximately 45^{o}C to 28^{o}C over an 8-hour period and, thereafter, holding it at that temperature for approximately 6 hours, further reducing the temperature to approximately 10^{o}C over a short period of time and maintaining it at this temperature for approximately 4 hours and then reducing it to a temperature of approximately 6^{o}C thereafter, pending further processing.

<u>BUTTER FACTORY - (APPEAL NO. 99)</u> (DRAWING NO. 3)

In the manufacture of butter, the cream is pumped from the separators to a balance tank in the separator room, from where it is pumped through a pasteuriser to cream tanks if it is designated for butter manufacture, or, to one of the two designated creamer tanks if it is designated for the manufacture of dairy blends.

The creamer tanks are double walled vertical cylindrical units with a capacity of approximately 10,000 gallons, with dimple jackets, which permits chilled water, at a temperature of approximately 34^{o}F - 36^{o}F to be circulated around the cream, thus extracting heat from the cream and maintaining it at a prefixed temperature. This is a tempering and crystallising process. Cream, during crystallisation, gives off latent heat and thus, it is necessary to have continuous and controlled cooling with chilled water. Each tank is further fitted with a heavy mechanical agitator and is insulated externally.

Butter or dairy blends cannot be manufactured for 6 - 8 hours after pasteurisation of the cream when adequate crystallisation of the cream, by means of this process, has taken place.
The basic ingredient of a dairy blend is cream and soya fats. Soya fats are imported and delivered to Mitchelstown in specially reinforced and heated containers. Having passed through the weighbridge, the soya fats are transferred to the butter factory, sampled and tested before off-loading into fats tanks. At this point, the soya fats are at a temperature in the container, of approximately 25^{o}C - 30^{o}C which effectively means that the fats are pumpable but are quite viscose at this temperature. Having been pumped into the fats tanks, the soya fat are heated to a controlled temperature of 45^{o}C and maintained at this temperature.

The fats tanks are lagged and cladded vessels using dimple walled jackets with both steam and chilled water in circulation to effect thermal circulation of the soya fats. Fitted within the tank are level probes and temperature probes which are linked to a computer.

It is essential that the soya fats be maintained at a controller temperature of 45^{o}C in order to facilitate the computerised blending system for the process of blending the soya fats with the cream, for the production of the dairy blends.

CHEESE FACTORY - APPEAL NO. 97 (DRAWING NO. 5)

Cheese is manufactured by the addition of 'starter' to standardised whole milk and further processing of same with the addition of salt thereto.

Milk is purchased from farmers, collected in tanker trucks and delivered to the common weighbridge. The milk is agitated, sampled and tested at the common weighbridge. If determined to be of suitable quality for the manufacture of cheese, the milk is off-loaded from the tanker trucks of the factory, where it is agitated on a continuous basis. From this tank, the milk is pumped into milk silos (Ref. 1-6). Having been tested for fat content, the milk is standardised with skimmed milk in these milk silos and held for a period of one hour, in order to achieve a

homogeneous mix and permit verification that the milk mix will produce a final product within the legal specifications as to fat and total solids content. These silos are insulated in order to maintain the milk at a temperature of less than 5^{o}C, which is essential in order to maintain the quality of milk for the process of cheese making. The silos are lagged and cladded vessels, fitted with 2-speed agitators, level probes and temperature probes.

The milk is now pumped form the milk silos through heat exchangers, where the milk is heated to a temperature of approximately 155^{o}F and is then pumped into the cheese vats where starter is added thereto. When sufficient lactic acid has developed in the milk for it to coagulate, it is then pumped to the cheddar master where it is cubed and they whey is drained off. Salt is also added at this point.

From the cheddar master, the whey is pumped to the whey cleaning tank (Ref. No. 16) which has a 30,000 gallon capacity and is a lagged and cladded vessel fitted with a level probe. The function of this silo is to collect the whey from the cheddar master floor during production and supply it to the whey separation plant. It is important that the whey reach the separation plant in a homogeneous state. This is achieved by agitation and bottom-fill and bottom-empty of the silo, thus getting the uniform dispersion of the fat in the whey, needed for efficient separation. This silo must be maintained at a level of at least 30% of its capacity at all times, in order to ensure efficient operation and avoid automatic shutdown by the computer, which is linked to the level probe.

The curd, which has been cubed in the cheese master, is now conveyed on automatic conveyor belts to the block former, wherein the curd is compressed into 40lb. blocks of cheese which is then automatically packed and sent for curing. In the process of compression in the block formers and in the course of moisture reduction, white whey is squeezed form the curd and falls into an automatic pumping system.

While whey has a high fat and high salt content and is approximately 20% dry matter. The white whey is pumped into one of two whey tanks (Ref. 18 and 19), which are lagged and cladded and fitted with extremely vigorous agitators. Water is added in the whey tank in order to reduce solid content from 20% to 12% and enable separation to take place. The white whey is then pumped into the separators which separates the fat from the whey. The whey is then pumped into whey storage tanks. The fat or cream is then pumped into the cream tank (Ref. 17), which is a 3,000 gal. vessel, lagged and cladded, fitted with cooling coils and heavy duty agitators. The cream is pumped into the cream tank to a temperature of 5^{o}C.

The cream is maintained at this temperature and stored in the cream tank, pending transportation to a Imokilly Creamery (a separate division of Mitchelstown Co-op) for further processing.

Mr K Allman is a Valuer with 15 years experience in the Valuation Office. He presented a written submission on behalf of the respondent on the 11th November, 1988. His contentions, as

far as these appeal are concerned, are that all the items under appeal are constructions affixed to premises and that the primary purpose for which they are used is storage or containment. No process of change is induced within the various tanks, silos and bins. Any action or force applied to the substances contained is to maintain such substances in good condition during storage and any such action or force is a function of storage and not a process designed to induce change.

The respondent also contended that, in respect of the grain installations at Limerick Road, there was no manufactory in this installation and that the grain leaving is similar to the grain taken in.

In the course of its written submission dated - November, 1988, Cork Co Council contended that following on the Supreme Court decision in the Beamish and Crawford Case (judgment delivered on 23rd July, 1980) the Cork Circuit Judge had ruled in 1984 that tanks in the Irish Refining premises at Whitegate were machinery within section 7 of the Rateable Property (Ireland) Amendment Act, 1860, and he reduced the valuation from £34,000 to £1,445.

Cork County Council were alarmed at the effects this decision would have on ratepayers in the county, especially as the decision was followed by similar rulings in creamery and industrial premises.

The Council believes that an undue burden of the county rate is now being placed on the small shopkeeper and licensed property owner. This, the Council considers to be not in keeping with the spirit of the Constitution. If equity is to prevail, some effort must be made to preserve the old traditional base and to ensure that each ratepayer pays, in so far as the valuation code allows, his/her share of the county rate.

The Council considers it advisable to become an appellant in order to ensure sufficient "locus standi" in any subsequent hearing of these cases.

The Council recognises that it was never envisaged that a local authority should find it necessary to adopt this stance and it only does so reluctantly in the interest of equity.

The Council complained that it had been frustrated both by the appellants and the Valuation Office in carrying out a full inspection of the appellants premises.

The Council listed the Mitchelstown premises for revision of valuation on the following grounds:

> "Revise and update to current levels the valuation of all buildings, as valuation not considered adequate. Value any new developments and commercially developed land. Revise to take account of the 1986 Valuation Act."

The County Council says that this request for full revaluation of buildings, new developments, and commercially developed land has not been carried out, but has been substituted by agreement between two of the three interested parties and in the absence of a full revaluation the Council requires to be a party to the agreement and to have a full input.

The Council contends in its appeals as follows:-

A. That the valuation of the hereditaments is inequitable and inadequate.

B. That the valuation is bad in law, in so far as that rateable items have not been valued, or if valued, not valued adequately.

C. That in assessing the valuation, regard was not had to the Valuation Act, 1986 (No. 2 of 1986).

D. That the valuation as determined, does not bear any relevance to the Net Annual Letting Value of the property.

E. That the valuation as fixed, is unjust, in so far as by its determination, the Commissioner of Valuation failed to ensure that the occupier carries his fair share of the rating burden, and that an undue share of the county rate falls on other ratepayers as a result.

F. That even where items are not rateable per se as per section 7, of the 1860 Act, the relevant hereditament should attract an increased valuation on the enhancement of the property.

G. That where a hereditament is subject to valuation per se, it should be rateable, notwithstanding the fact that it is valued in the correct column.

H. "Machinery" has always been excluded from valuation in pursuance of section 7 of the 1860 Act, and the problems stem from recent court decisions.

THE LAW

What are rateable hereditaments are described in section 12 of the Valuation (Ireland) Act, 1852, as extended by section 2 of the Valuation Act, 1986 and, therefore, the categories of rateable hereditaments are set out hereunder:-

What hereditaments are rateable

XII For the Purposes of this Act the following Hereditaments shall be deemed to be the rateable Hereditaments; viz., all Lands, Buildings, and opened Mines; all Commons and Rights of Common, and all other Profits to be had or received or taken out of any Land; **[**and in the Case of Land or Buildings used exclusively for public, scientific, or charitable Purposes, as herein-after specified, Half the annual Rent derived by the Owner or other Person interested in the same, so far as the same can or may be ascertained by the said Commissioner of Valuation;**]** and all Rights of Fishery; all Canals, Navigations, and Rights of Navigation; all Railways and Tramroads; all Rights of Way and other Rights or Easements over Land, and the Tolls levied in respect of such Rights and Easements; and all other Tolls: Provided always, that no Turf Bog or Turf Bank used for the exclusive Purpose of cutting or saving Turf, or for making Turf Mould therefrom, for Fuel or Manure, shall be deemed rateable under this Act, unless a Rent or other valuable Consideration shall be payable for the same: And provided also, that no Mines which have not been opened Seven Years before the passing of this Act shall be deemed rateable until the Term of Seven Years from the Time of opening thereof shall have expired; and no Mines hereafter to be opened shall be deemed rateable until Seven Years after the same shall have been opened; and Mines *bona fide* re-opened after the same shall have been *bona fide* abandoned shall be deemed an opening of Mines within the Meaning of this Act.

* [square brackets] repealed by s. 3 and schedule to Local Government (Rateability of Rents) (Abolition) Act, 1971.

SCHEDULE

(1) Reference Number	(2) Categories of Fixed Property
1.	All construction affixed to lands or tenements, other than buildings referred to in section 14 of this Act.
2.	All lands developed for any purpose other than agriculture, horti-culture, forestry or sport, irrespective of whether or not such land is surfaced, and including any constructions affixed thereto which pertain to the development.
3.	All cables, pipelines and conduits (whether underground, on the surface or overhead), and including all pylons, supports and other constructions which pertain to them.
4.	All fixed moorings, piers and docks.
5.	Plant falling within any of the categories of plant specified in the Schedule to the Annual Revision of Rateable Property (Ireland) Amendment Act, 1860 (inserted by the *Valuation Act, 1986*).

There is set out below section 7 of the Annual Revision of Rateable Property (Ireland) Amendment Act, 1860 together with the amendments affected to that section by sections 7 and 8 of the Valuation Act, 1986.

The original section 7 was as follows:

> In making the Valuation of any Mill or Manufactory, or Building erected or used for any such Purpose, the Commissioner of Valuation shall in each Case value the Water or other Motive Power thereof, but shall not take into account the Value of any Machinery therein, save only such as shall be erected and used for the Production of Motive Power.

and the amendments are as follows:

7. - The following section is hereby substituted for section 7 of the Act of 1860:

"7. - (1) (a) In making the valuation of any mill or manufactory, or building erected or used for any such purpose, the Commissioner of Valuation shall in

each case value the water or other motive power thereof, but shall not take into account the value of any machinery therein, save only such as shall be erected and used for the production of motive power.

(b) For the purposes of this subsection, machinery erected and used for the production of motive power includes electrical power connections.

(2) The Commissioner of Valuation shall value plant falling within any of the categories of plant specified in the Schedule to this Act (inserted by the *Valuation Act, 1986*).

(3) In valuing plant referred to in subsection (2) of this section, the Com
plant which moves (or is moved) mechanically or electrically, other than a telescopic container".

8. - (1) The Act of 1860 is hereby amended by the insertion after section 15 of the following Schedule:

"SCHEDULE

(1) Reference Number	**(2) Categories of Plant**
1.	All constructions affixed to the premises comprising a mill, manufactory or building (whether on or below the ground) and used for the containment of a substance or for the transmission of a substance or electric current, including any such constructions which are designed or used primarily for storage or containment (whether or not the purpose of such containment is to allow a natural or a chemical process to take place), but excluding any such constructions which are designed or used primarily to induce a process of change in the substance contained or transmitted.
2.	All fixed furnaces, boilers, ovens and kilns.
3.	All ponds and reservoirs.

"

The Tribunal was referred to the following cases dealing with the definition of "machinery":-

Cement Ltd v. Commissioner of Valuation [1960] I.R. 283

Thompson & Son Ltd v. Commissioner of Valuation [1970] I.R. 264

United Molasses Co Ltd v. Commissioner of Valuation [1972] R.A. 282

Beamish & Crawford Ltd v. Commissioner of Valuation
Judgment of Finlay P. of the 8th May, 1978 and Supreme Court 23rd July, 1980 [unreported]

Pfizer Chemical Corporation v. Commissioner of Valuation
Judgment of Costello J. of 31st July, 1984 [unreported]

Siuicra Eireann C.P.T. v. Commissioner of Valuation
Decision of Hamilton P. of the 6th October, 1988 [unreported]

ORAL HEARING

The oral hearing took place on 15th and 16th November 1988.

Mr Marcus Daly S.C. and Mr Marcus F. Daly, Barrister, (instructed by Messrs P.L. Roche & Co.) appeared for the appellants; Mr Aindrias O Caoimh, Barrister (instructed by the Chief State Solicitor) appeared for the respondent, Mr Liam MacKechnie S.C. (instructed by the County Solicitor) appeared for Cork County Council. The evidence given and the submissions made appear from the transcript of the proceedings.

In addition to the cases hereinbefore mentioned reference was made to the case of Commissioner of Valuation v. Dundalk Gas Co. (1929) I.R. 155.

FINDINGS

Prior to the enactment of the 1986 Act, the position was that there were a number of cases which had set out to define was meant by "machinery".

Finlay P. (as he then was) in his judgment in the Beamish & Crawford Case thought that it was possible to state certain principles with regard to the word machinery in section 7 of the Act of 1860. He said (at p. 15) they were as follows:-

1. The word machinery must be construed in its popular sense.

2. In its popular sense machinery involves the concept of the use or adaptation of power.

3. Machinery cannot be defined by reason of the fact that it is moveable and not affixed to the realty nor can objects which are affixed to the realty be excluded by the fact alone from the definition machinery.

4. It is inappropriate in considering to use a neutral term any piece of equipment used in a manufactory to consider its component parts piecemeal for the purpose of designating some parts as machinery and some as not.

5. It is a relevant though not a determining fact that equipment alleged to be machinery is used for the purpose of actually processing a material being produced by the manufactory concerned.

6. Equipment is not to be excluded from the definition of machinery within the section merely be reason of the fact that some and even a relatively high proportion of its time or purpose may be involved in mere storage of the material being processed.

This passage was approved by the Supreme Court.

The Tribunal would respectfully adopt this analysis and concludes that all the constructions under appeal come within that description of machinery.

The purpose of the amendment brought about by the Valuation Act, 1986, manifestly was to provide that certain industrial plant should be deemed rateable while, at the same time, preserving the age old exemption for machinery (save such as shall be erected and used for the production of motive power) and it was made clear that the Commissioner should not take into consideration a part of any plant which moves (or is moved) mechanically or electrically, other than a telescopic container.

The Tribunal believes that if it had to decide the matter before the enactment of the 1986 Act, it would clearly be bound to hold, in accordance with the judicial decisions hereinbefore referred to, that all the installations under appeal in this case constituted machinery and would be entitled to exemption.

With regard to the Limerick Road installations, the Tribunal is of the opinion that these constructions are part of the manufactory or a building used for such purpose and that there is no reality in regarding it as otherwise then part of the complex of manufacturing activities which is engaged in by the appellant company. If modern language had been used in amending section 7 of the Act of 1860, the word "factory" would have been used instead of "manufactory" and would anyone doubt if an accident took place at this installation that it happened in a "factory"?

If the installations are "plant" they are to be deemed rateable hereditaments unless it can be said they are excluded because they are designed or used primarily to induce a process of change in the substance contained or transmitted.

With regard to the Limerick Road grain installations there can be no doubt that what goes in is grain and what comes out is grain and there is no doubt that a process of change comes about in the grain and it is right to say that this process of change is "induced" during its storage in the installations. To "induce" a process of change means to being about or cause a process of change. If the grain was not treated - to use a neutral term - in these installations in the way that has been described by the witnesses it would be of no use. The Tribunal has no doubt that this is a highly sophisticated system and that a simpler layout to deal with storage simply would have been feasible.

Nonetheless, storage is of the essence whereas the procedures by which a change is brought about is something that can be done by different methods, although at a great deal more expense and using more manhours than such an installation as this. The question for resolution is whether the primary purpose of the operation is for storage or is it to induce a process of change in the substance?

As this has been said above, storage cannot be dispensed with and, therefore, it must be put first in importance in the scheme of things. If it is first in importance then the installation is designed or used primarily for storage.

Accordingly, the Tribunal determines that the Limerick Road grain constructions are deemed to be rateable hereditaments.

The Tribunal applies the same reasoning in respect of the Clonmel Road grain constructions.

With regard to the Castlefarm milk installations (milk powder factory), the Clonmel milk installations (cheese factory) and Castlepark milk installations (butter factory) it seems to the Tribunal that a strong argument has been presented that what is involved in these operations is a process which is an integral part of the whole manufacturing process that takes place at the respective installations; that what is involved is machinery pure and simple and that the 1986 Act has not effected any change in relation to these installations.

However, on balance, the Tribunal has come to the conclusion that these installations must be regarded as plant too. However, there is no element of storage or containment except in a peripheral or casual manner and insofar as there is such an element the Tribunal is in no doubt that the primary purpose of these installations is to induce a process of change in the substance contained or transmitted. Indeed the Tribunal is of the opinion that there is induced a process of change at each stage of the respective operations.

In the result, the Tribunal affirms the respondents decision in relation to the Limerick Road grain constructions and the Clonmel Road grain constructions and reverses his decision in relation to the other three appeals.

Paragraph 12(1) of the First Schedule to the Valuation Act, 1988, requires the Tribunal to award costs to the successful part to an appeal unless there is good reason for not doing so.

In these cases it seems to the Tribunal that each of the main parties has succeeded and that, therefore, there should be no order as to costs.

As regards Cork County Council it was a notice party only in this appeal and there will be no order as to costs in relation to Cork County Council.

APPENDICES

Appendix A	5 plans submitted by the appellants
Appendix B	Photographs submitted by the appellants
Appendix C	Photographs submitted by the respondent
Appendix D	Powder plant milk intake flow diagram
Appendix E	Milk factory, butter factory and cheese factory process chart.