

- (v) The Harland Engineering Co., Ltd. is a signatory of the Group notification and price agreements for small alternators for the home market, but not for the export market. The company is a signatory of the IEA notification agreement for water turbines, but not of the notification agreement for water turbo alternators, although it manufactures these machines, nor of the Hydro-Electric Plant Arrangement which covers export price arrangements for water turbo alternator units and to which all the other United Kingdom signatories of the relevant IEA notification agreements belong.
- (vi) There are two companies making hydro-electric machinery (apart from those who make only to the designs of other manufacturers—see paragraph 149) which are not members of the IEA agreements relating to this machinery.
- (vii) A few other companies occasionally make products outside their normal range which are covered by agreements of which they are not signatories.

Except for Boving & Co. Ltd., all United Kingdom signatories of agreements are also members of the BEAMA.

162. We describe the main provisions and operation of agreements relating to steam turbo generating machinery in Chapters 7 to 11, those relating to marine equipment in Chapter 12, and those relating to hydro-electric machinery in Chapter 13.

CHAPTER 7. STEAM TURBO GENERATING MACHINERY: ORIGINS OF THE AGREEMENTS: NOTIFICATION AND COMPENSATION FOR TENDERING EXPENSES

(1) Origins

163. In 1909 the manufacturers of steam turbines and associated electrical machinery and condensing plant together formed the Steam Turbine Manufacturers' Association: there were eight original members including six who are still signatories of Group agreements, and the Association was in effect the predecessor of the present Groups. Its members' first concern was to revise "on a more equitable basis" the "extremely onerous contractual conditions which the manufacturers were then expected to accept . . .". Slightly later they discussed the introduction of a "royalty" scheme whereby every price tendered, was to include a certain sum to be divided, after provision for the running expenses of the Association, among those members who incurred expense in the preparation of a tender. About 1912 the members concluded separate agreements covering steam turbines, alternators and condensers and each providing for notification and royalty. Corresponding prices agreements were introduced from 1911/12 onwards. In 1929 separate agreements to cover large as distinct from small machinery were introduced. There were then in existence formal Group notification and price agreements covering both large and small turbines, alternators and condensers in the home market and notification agreements covering exports.* Between dates in 1931 and 1934 price arrangements were suspended. Thereafter revised agreements relating specifically to small machinery were introduced. Meanwhile, the signatories of the large turbine and large alternator price agreements

* There is no formal agreement covering large condensers for export (but see footnote to paragraph 156).

entered into a supplementary quota agreement intended to secure to each a specified percentage quota of an agreed block of business;* under this agreement signatories selling in excess of their quota paid compensation which was distributed *pro rata* to those in deficit, and all signatories were bound to observe their obligations under the main price agreements. The quota agreement was in being between dates in 1935 and 1937, but no compensation was paid. From November, 1936, there was also a private arrangement between four of the big companies† that they would quote a price $7\frac{1}{2}$ per cent. above the common minimum price for the turbine on any home market enquiry to enable other signatories to increase their share of the business: this arrangement was not administered by the Groups and has not been operated since about 1940. Price arrangements for all small and large machinery supplied in the home market have been operated continuously since 1935.

164. In the meantime some signatories of the Group agreements had joined the International Notification and Compensation Agreement in 1930 and the separate notification and compensation agreements by which it was replaced in 1933 (see paragraph 75). In 1937 United Kingdom signatories of the relevant International Electrical Association (IEA) notification agreements entered into an informal Turbine Plant Export Arrangement, which was in turn replaced in 1944 by the Turbine Plant Export Agreement providing for common minimum prices for large steam turbo generating machinery for export; the agreement was revised in 1952 and again in 1955. The corresponding Group price agreements relating to small machinery for export were not formally concluded until 1953, but they had been in draft and observed in practice since 1941.

(2) Notification

165. The purposes of notification are basically the same whether the Groups or the IEA operate the agreements: namely, to create a basis for further co-operation and to provide statistical information. The procedure laid down under all current Group notification agreements is the same, and the provisions are generally similar to those of earlier agreements which we have examined. Each agreement provides that on receiving information of a purchaser's requirements each signatory shall in every case notify the Secretary by means of duplicate printed notification cards, giving details of the machinery, the name of the prospective purchaser and the date by which tenders are required, and stating whether or not the signatory concerned means to tender. On receiving these duplicate cards, the Secretary allots a reference number to the enquiry and enters the number on one of the two cards which he returns to the notifying signatory. The Secretary advises all signatories of the agreement daily of enquiries notified: the advice card used for this purpose shows the reference numbers of enquiries received and the names of those signatories who have notified in every case, but gives no further details. As the result of this procedure signatories who have notified a particular enquiry know the names of all other signatories who may tender, but the information circulated does not in itself give particulars of the job to other signatories of the agreement.

166. The Group notification agreements provide that on receipt of an order every signatory must at once notify the Secretary, giving the number and capacity of the machines ordered. The Secretary thereupon passes this

* Namely orders for machinery up to a total of 1,500,000 kW.

† Namely:—The British Thomson-Houston Co. Ltd., The English Electric Co. Ltd., Metropolitan-Vickers Electrical Co. Ltd. and C. A. Parsons & Co. Ltd.

information to all signatories of the agreement who notified the particular enquiry. At the same time he calculates and informs each of the total amount of tendering expenses included in the order price, the amount payable to the Administration Fund of the agreement (see paragraph 178), the names of the signatories who notified the enquiry and of those who tendered, and the amount of tendering expenses due to the recipient of the particular advice card. Statistics based on information notified and showing for each successful negotiation the number of tenderers and name of successful tenderer, the date of notification of order, number and total capacity of machines ordered and rate and total amount of tendering expenses, are subsequently circulated in the Secretary's quarterly reports to all signatories of the agreement including those who did not notify: the Secretary also issues quarterly and annual reports under each notification agreement showing the total business transacted by each individual signatory in terms of capacity of plant.

167. Procedure under the IEA notification agreements is generally similar, but in the case of those signatories of the turbine and alternator notification agreements who are also signatories of the Turbine Plant Export Agreement, a single notification suffices on any one enquiry. In addition any signatory of an IEA notification agreement receiving information that an order has been placed with a non-signatory is under obligation to report this fact with any details which he may have to the Secretary, who must in turn advise all signatories who tendered. The Secretary of the IEA also circulates reports under each agreement showing (i) the number of enquiries notified, (ii) the number, total capacity, description and "average size" of machines ordered from signatories, and (iii) similar information concerning machines reported to have been ordered from non-signatories. The reports do not give money values.

(3) Compensation for Tendering Expenses

168. Before the revision of 1951 these arrangements were referred to in all Group notification agreements as "royalty" arrangements. The current Group home market notification agreements provide that every signatory shall include in every tendered price for machinery the subject matter of the agreement a sum to cover tendering and associated expenses; this sum is to be calculated according to specified formulae related to the square root of the capacity of the machinery concerned.* In both Group agreements covering turbines in the home market for example the current compensation formula is $\text{£}400 \sqrt{\frac{\text{KW}}{\text{RPM}}}$. The successful tenderer must pay to the Secretary the amount of tendering expenses due in respect of his contract, and the Secretary must subsequently credit the moneys so received to individual signatories of the agreement (see paragraph 166). The method of distribution varies according to the number of signatories who originally notified the enquiry: where only one signatory notified, two-thirds of the total is returned to him and the remaining one-third is divided equally among all signatories of the agreement, including the notifier; where two notified, each receives one-third and the remaining one-third is divided among all signatories, including the two notifiers; where more than two notified, the amount paid in to the Secretary is divided equally among all notifying signatories.

169. On enquiries where tenders are invited, notifiers share in the distribution of compensation whether they have submitted a tender or not. When the CEA allocates orders to individual manufacturers for machinery covered

* A signatory tendering to a fellow signatory is to include the appropriate sum, but a signatory tendering on plant to be manufactured to his order by a fellow signatory is not to add anything for tendering expenses, so that the sums due are included only once in the price to the purchaser.

by the three notification agreements for large machinery in the home market (see paragraph 204), the amounts paid in respect of compensation are distributed equally to all signatories.*

170. The amounts due to each signatory in respect of tendering expenses are paid to him monthly by the Secretary. In 1952 compensation paid on orders notified under the six home market agreements was as follows:—

	<i>Large</i>	<i>Small</i>
	£	£
Turbines	35,606	13,099
Alternators	38,270	4,451
Condensers	18,256	6,233
	92,132	23,783
	£115,915	

The Groups' procedure for payment and distribution has remained generally unchanged throughout all earlier texts of the agreements examined. The formulae themselves have remained unchanged for many years; as they are related to output, the yield as a percentage of price has therefore dropped during this time. The Groups' minutes record that in March, 1951, the manufacturers estimated the yield in the case of the largest machines as:—

	100 MW	60 MW	30 MW
	Per cent.	Per cent.	Per cent.
Turbine... ..	0·7	1·2	1·6
Alternator	1·0	1·2	1·9
Condenser	0·9	1·0	1·5

171. The provisions of the Group notification agreements for export are the same as those covering the home market except that under the two agreements covering large turbines and large alternators for export compensation is optional and no formula for calculating the amount of any payment due is given.† In practice this option is exercised negatively and compensation for these types of plant and also for large condensers is instead payable under the IEA Turbine Plant Export Agreement, which also contains the price arrangements (see paragraph 94). The Turbine Plant Export Agreement compensation formulae for large turbines and large alternators are also related to the square root of capacity of the machine, although they differ from the corresponding Group formulae: in practice while the price to the purchaser is enhanced by an amount calculated in accordance with the Group formula, the sum subsequently paid by the successful tenderer to the Secretary is calculated according to the IEA formula.‡ Thus a signatory of the agreement when tendering for a large turbine, for example, would include in his tender price a sum calculated from the formula

* In 1944 the signatories agreed that on home market orders placed subject to direction by the Heavy Electrical Plant Committee (see paragraph 25) signatories should share in royalty irrespective of notification.

† Until 1941 "royalty" was also optional under the export notification agreements for small machinery.

‡ Before 1952 the amounts due were calculated in cents per kW or kVA according to formulae in the former IEA compensation agreements suspended in 1942. We are told by the Association that the effect of the 1952 amendment has been to reduce the amount of compensation payable on larger machines covered by the agreement, the yield on the smaller machines remaining at about the same level.

£400 $\sqrt{\frac{\text{kW}}{\text{RPM}}}$; if successful in obtaining the contract he would later pay to the Secretary in sterling a sum calculated from the formula $\$50 \sqrt{\text{kW}}$ convertible at a nominal rate of 5 dollars = £1. The subject matter of the Turbine Plant Export Agreement does not cover condensers and feed water heating plant although the majority of enquiries notified are for complete turbo alternator sets, for which a lump sum price is usually quoted. Where this is the case, compensation for the condenser and feed water heating plant is settled from job to job, usually at the rate of 2 per cent. of the agreed price of the condenser. Compensation under the Turbine Plant Export Agreement is divided equally among the parties to the price arrangement for the particular enquiry concerned (that is, to the tendering signatories including the successful tenderer), the amounts due to and from each signatory of the agreement being paid quarterly. The Turbine Plant Export Agreement is now the only IEA agreement relating to machinery in class (a) under which compensation arrangements are operated. Payments under the agreement amounted to £141,993 in 1952* (see paragraphs 81 to 83).

172. We have described the purposes of the IEA's compensation arrangements in paragraph 82. The Groups' arrangements are similar to the Association's current arrangements in that both aim at reimbursing their members for at least part of the cost of preparing and submitting tenders; in each case the sums yielded and the formulae by which they are calculated are not based on costs actually incurred, and compensation payments are not confined to signatories who tender.

173. We asked the Groups concerned with steam turbo generating machinery why they have retained compensation although some Groups concerned with other types of machinery have dropped it. They replied that while they cannot speak for other Groups, in their own case compensation is necessary to recompense them to some extent for the great amount of work involved in preparing tenders for the types of machinery with which they are concerned and for the very considerable technical and commercial staffs which they must maintain for this purpose whether orders result or not and irrespective of the number of tenders called for in any one period. They have shown us specimen tenders each amounting in bulk to a book of foolscap size about one inch thick. They have also told us that the amount of compensation on an enquiry for machinery of £250,000 value, for example, works out at about £1,800; they point out that while this may appear a substantial sum for preparing a single tender, the manufacturer may in fact have to prepare more than one to cover alternative specifications and he may not in the end get that particular order; on other enquiries he may have to do a great deal of work before he can decide whether he can tender at all. In those cases where he either tenders and fails to get an order or after preliminary work decides not to tender he has virtually "done that work for nothing". The Groups maintain that the costs of tendering are a continuous charge on the manufacturers and cannot really be related to a particular enquiry. In their view compensation works on a principle of "swings and roundabouts"; neither on an individual tender nor over a period, however, do the sums of money received by any means cover the costs involved.

174. We also asked the British members of the IEA why they consider it desirable to operate compensation arrangements for steam turbo generating machinery under the Turbine Plant Export Agreement, but not for hydro-electric machinery under the Hydro-Electric Plant Arrangement. They replied that "on the water turbine side . . . we just have not been in the habit

* Including compensation on the related condensing plant.

of having compensation". They have no present intention either of dispensing with compensation on steam driven machinery or of introducing it for hydro-electric plant, although (as already noted in paragraph 88) it is possible that foreign members may wish to reintroduce some wider form of compensation for all machinery.

CHAPTER 8. STEAM TURBO GENERATING MACHINERY : THE PRICE ARRANGEMENTS

(1) Home Market Price Arrangements

(A) *The Price Provisions of the Agreements*

175. The main component machines in a turbo alternator set are priced individually under separate Group price agreements ;* each agreement comprises a main text and a series of schedules dealing with prices and related matters which are applied in accordance with provisions of the main text. The provisions and procedure of the different agreements are similar. Any variations between them are due either to the type of machine or to the capacity range and market conditions peculiar thereto. All current home market price agreements include among their objects that of ensuring "that prices are established at a reasonable and competitive level based upon the costs of economical production". The signatories of each are bound in all cases when offering machinery covered by the agreement to quote "not less than the Standard Price" as defined in the price schedules of the agreement concerned ; they are also bound normally to quote a lump sum price without any break down. The provisions of price agreements covering each of the component machines are extended to the set as a whole by means of inter-contracting agreements incorporated in the schedules to each price agreement.

176. The prices of all machines of capacity up to and including 60 MW are covered by schedules to the price agreements and are calculated from those schedules : † we describe the method of calculation and the application of the price provisions to this range of machinery in paragraphs 177 to 187. The agreements provide that prices for machines of capacities greater than those scheduled shall be arrived at "by a fair extrapolation" from the price schedules, but this method has not in fact been found practicable for the latest reheat turbines and alternators of capacities exceeding 60 MW required by the Central Electricity Authority (CEA). Prices for these very large

* Namely:—

- The Large Turbine Price Agreement (Home)
- The Large Turbo-Type Alternator Price Agreement (Home)
- The Large Condenser Price Agreement (Home)
- The Small Turbine Price Agreement (Home)
- The Small Turbine-Driven Alternator and Generator Price Agreement (Home)
- The Small Condenser Price Agreement (Home)

† The current schedules for condensers also cover condensing plants large enough for use with turbines up to 120 MW. In the case of turbines and alternators the range of capacities scheduled was formerly longer, but when the schedules were revised in 1952 the Groups felt that as designs were changing rapidly it would be wise to limit the upper limit of the range at the point where they were reasonably stable. The Groups do not propose to extend the present range of the schedules of the agreements until dependable costing data are available and members are satisfied that their designs and manufacturing technique have reached a satisfactory degree of stability. They point out that up to five years must elapse before the performance and cost of manufacture of a new design can be fully assessed, so that in the meantime in the case of turbines and alternators, only estimated costs are available as a basis for tendered prices "for these larger and technically more advanced" machines. The old schedule prices for machines exceeding 50 MW had covered only machines of speeds up to 1,500/1,800 r.p.m. which are no longer used.