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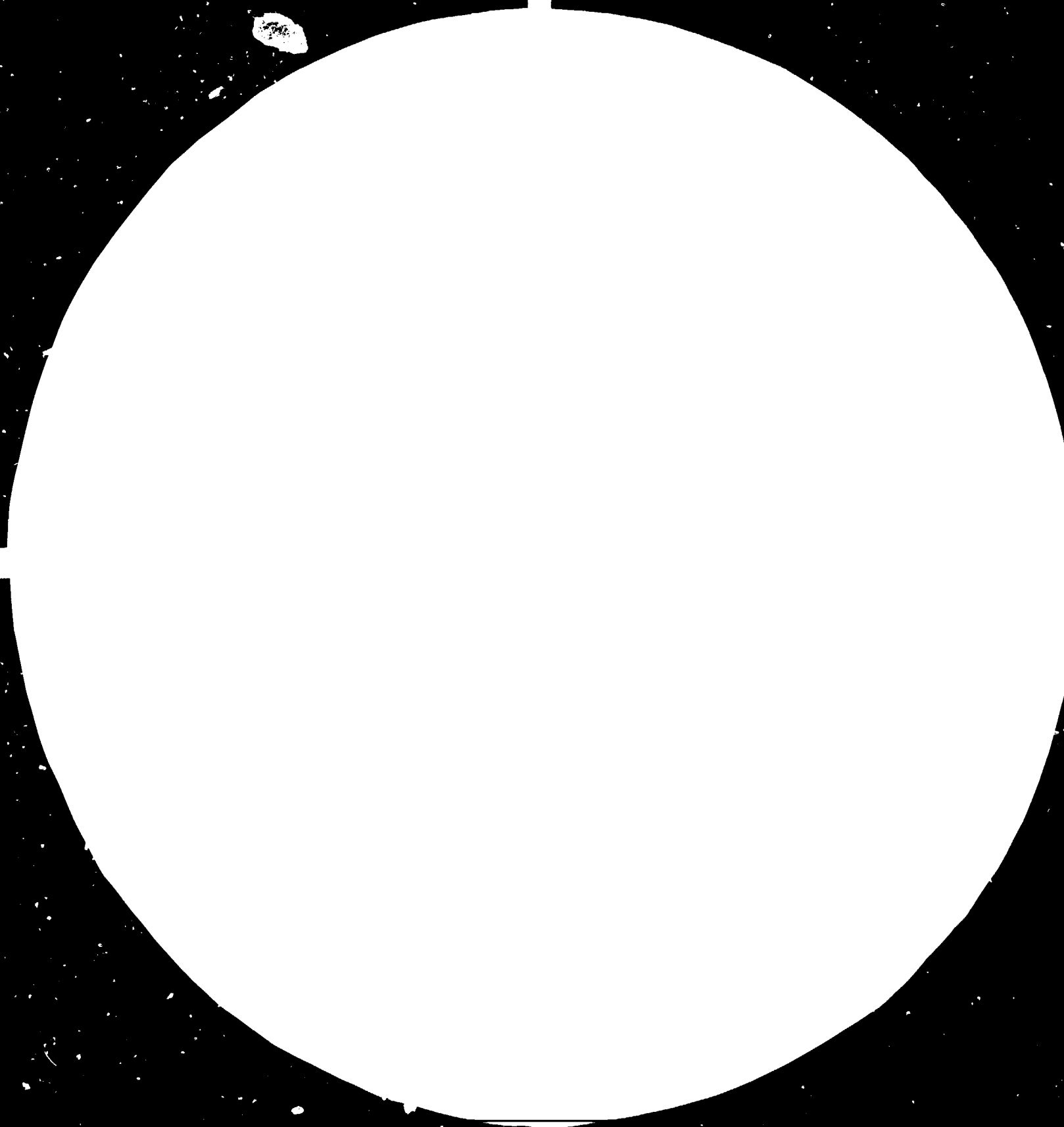

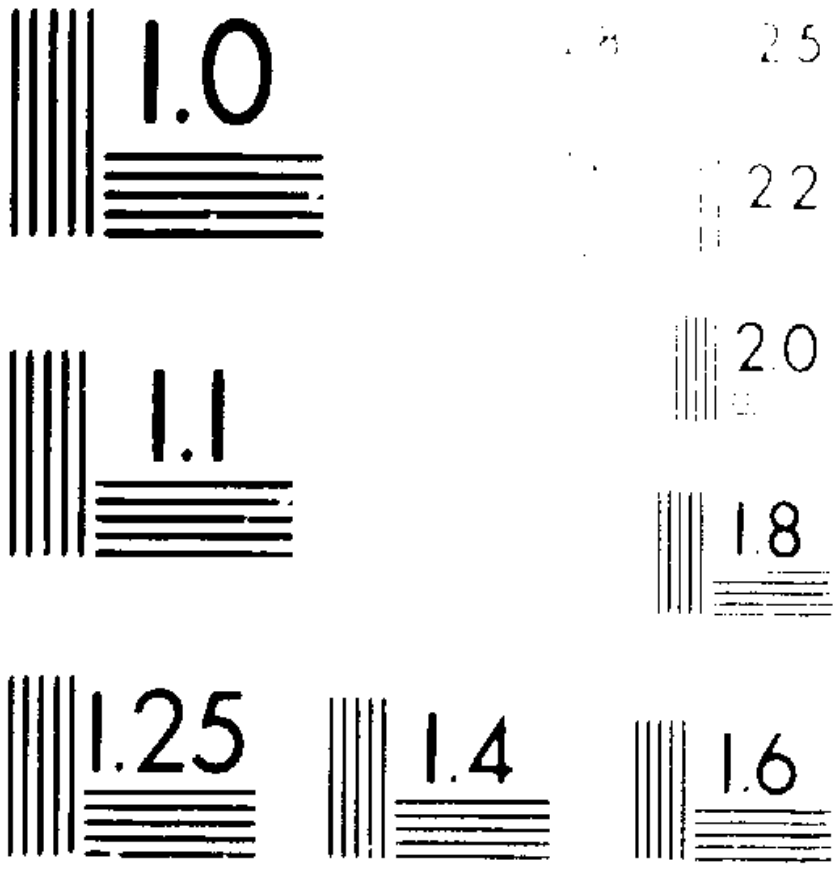
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FOR PARTICIPANTS ONLY

2 September 1983

ORIGINAL : ENGLISH

ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC

UNIDO/ESCAP Symposium on Contracts for the Construction
of Oil and Gas Pipelines
30 August - 2 September 1983
Jakarta, Indonesia

DRAFT REPORT

(unedited)

(Symposium on contracts for construction of pipelines).

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I. ORGANIZATION OF THE SYMPOSIUM

1. The UNIDO/ESCAP Symposium on Contracts for the Construction of Oil and Gas Pipelines was held at Jakarta from 30 August to 2 September 1983. It was jointly organized by UNIDO and ESCAP, in co-operation with LEMIGAS, Centre for Oil and Gas Development, Jakarta and with host facilities provided by the Department of Mines and Energy of the Government of Indonesia.

2. The objectives of the Symposium were (a) to initiate a dialogue between suppliers and recipients of technology in the pipeline construction industry, (b) to discuss specific provisions of international offshore and onshore pipeline contracts between individual national oil companies in developing countries and international pipeline contractors including the discussion of the concept of fair and equitable terms, (c) to review information and current practices in those contracts in selected countries of the ESCAP region and (d) to develop basic guidelines as to treatment of such contracts by national oil companies in developing countries.

Attendance

3. The Symposium was attended by 80 participants from 10 countries namely, Bangladesh, People's Republic of China, Federal Republic of Germany, India, Indonesia, Japan, Malaysia, the Netherlands, Republic of Korea and Thailand. Representative of the following international professional non-governmental organizations also participated: International Bar Association (IBA), and International Federation of Consulting Engineers (FIDIC).

Opening Addresses

4. Prof. Dr. Wahjudi Wisaksono, Chairman of the National Organizing Committee of UNIDO/ESCAP Symposium, welcomed the participants. He thanked PERTAMINA (the National Oil Company), its foreign oil contractors operating in Indonesia, the various national consulting engineering firms and others who have rendered assistance to the Oil and Gas Development Centre (LEMIGAS), for the successful organization of the Symposium. He pointed out that all participants were gathered together to learn from each other and to foster co-operation between clients, contractors and engineers in the construction of oil and gas pipelines.

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5. In his message, Dr. V.J. Ram, Chief of ESCAP/UNIDO Division of Industry, Human Settlements and Technology, thanked the Government and the People of Indonesia for the generous assistance which enabled the convening of the Symposium at Jakarta. It was heartening to note that a number of national and international private sector enterprises were also participating in the Symposium.

6. The major problems confronting developing countries arose from structural changes in manufacturing with special reference to increase in productivity. Activities relating to science and technology had, therefore, become increasingly relevant. The most important task pertained to upgrading of negotiating capacities of member states. There was a need to develop appropriate methods to ensure technology transfer on more equitable terms. Both UNIDO and ESCAP were actively involved in these activities. Contracts on pipeline construction were extremely complex. Technological, commercial and legal aspects constitute three elements which should be closely examined. The question of appropriate regulations of subcontracts and suppliers' involvement were also important. The Symposium should also take into consideration problems of improving capacities and capabilities of technologists and engineers in the developing countries. Additionally, the problem of increasing use of domestic resources should also receive considerable attention.

7. Mr. Johan Cramwinckel, on behalf of the Executive Director of UNIDO, stated that UNIDO was actively promoting accelerated industrial development guided by the target set by the Second General Conference of UNIDO at Lima, for the achievement of 25 per cent of the global industrial output by the year 2000 A.D. by developing countries. Technological interdependency was an important element in industrial development. UNIDO had concentrated on three principal areas; (i) system of consultation, (ii) regulation of technology transfer and (iii) technology transfer and foreign investment. In these tasks the creation of better understanding between technology transfer regulatory offices of developing countries and the Licensing Executive Society was of great importance.

8. In his inaugural address, Mr. Sutaryo Sigit, Secretary General of the Department of Mines and Energy, observed that Indonesia has had a varied and wide experience on the subject of oil and gas pipelines construction, which had become more and more complex with the advancement

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of the industry. Production of oil in Indonesia dated back to 1885 when the first oil pipeline was constructed. During the last 12 years, with the introduction of modern technology, Indonesia has been able to achieve substantial progress. Offshore oil exploration commenced in 1967/1968 and the first offshore oil production commenced in 1971. The discovery of large onshore and offshore gas resources led to the construction of LNG plants. Constructions of new plants were still underway to support industries which were being set up in South Sumatra. The utilization of natural gas in Indonesia was still expanding.

9. Pipelines provided the cheapest and safest way of despatching oil and gas. Construction and laying of pipelines were therefore a decisive factor in determining the economic feasibility of new projects. With Indonesia's experience over the years it had been possible for Indonesia companies to have obtained extensive knowledge in this area of work. Today domestic firms provided designs and undertook engineering construction, radiographic inspection and construction management. The role of foreign companies were related to financing and supplying of equipment.

10. The Symposium provided an excellent opportunity to discuss the various aspects and problems of pipeline construction contracts. He hoped that the Symposium could provide guidelines on legal, financial and technical aspects of contracts and that special attention would be paid to promotion of national interests. The other important aspects related to training optimum utilization of domestic services and maximum employment of national labour and manpower. In that respect terms and conditions of contracts should also include a "national content".

11. The Secretary General extended a warm welcome to the participants and expressed the confidence that their deliberations would lead to practical recommendations for formulating basic guidelines for contracts for the construction of pipelines.

12. An exhibition next to the conference room was also held by national Indonesian contractors, engineering consultants and manufactures of their activities in the pipeline construction and manufacturing industry.

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13. A visit to the Krakatao Steel Plant, 120 kms. west of Jakarta, which uses natural gas for its energy and produces steel iron pipes was organized for the participants.

Election of Officers

14. The Symposium unanimously elected Mr. Wahjudi Wisaksono (Indonesia) as Chairman. Mr. T.N. Bhargava (India) and Mr. Bodin Asavanich (Thailand) were elected as Vice-Chairman and Rapporteur respectively.

Adoption of the agenda

15. The Symposium adopted the following agenda:

1. Opening
2. Election of the Officers
3. Overview of contracts for the construction of oil and gas pipelines in developing countries
4. Transfer of technical know-how
5. Development of local engineering capabilities, construction skills and use of local materials and equipment
6. Closing

II. CONSIDERATION OF ISSUES

Overview of Contracts for the Construction of Oil and Gas Pipelines in Developing Countries (Agenda Item No. 3)

16. The Symposium took note of two papers prepared by the secretariat (IHT/SYM83/T1 and IHT/SYM83/T1A), which stress, a.o. the importance of defining clearly the parties to the agreement, and mentioned the unfavourable influence of undue risk allocation to the contractor on the overall price payable by the employer. The papers also made reference to new forms of international pipeline construction developed by various national oil companies of developing countries active in this field.

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17. The following country papers were introduced briefly, highlighting in the important issues, by the respective country participants: Bangladesh (IHT/SYM83/T4), People's Republic of China (IHT/SYM83/T5), India (IHT/SYM83/T6), Indonesia (IHT/SYM83/T7), Malaysia (IHT/SYM83/T8), Republic of Korea (IHT/SYM83/T14) and Thailand (IHT/SYM83/T10).

18. Some countries expressed their concern on unfavourable influence of unusual weather conditions (e.g. early monsoon or other unpredictable weather conditions) on time of completion and costs for their pipeline construction contracts. Furthermore, it was mentioned that shortage of time was a severe handicap to thorough survey and design. Other problems during the commissioning stages were also mentioned. In general, the occurrence of force majeure events seems to cause problems. In some cases the employer was not able to provide, in due time, right of way. In some cases material to be imported was late. It also happened, that the supply of local materials was interrupted.

19. It was mentioned that in one case, insufficient supply of energy made it impossible to complete the performance tests as foreseen in the contract.

20. On the commercial side, currency fluctuations have increased project costs for local employers. In the taxation areas contracting with consortia has caused problems to local fiscal authorities.

21. Finally the representatives of UNIDO, IBA and FIDIC introduced their papers. UNIDO mentioned that the implementation of technology transfer regulations, in some developing countries will have an impact on international pipeline construction contracts and their terms in the future. IBA stressed the importance of an need for appropriate allocation of risks between contractors, employers, and independent consulting engineers. FIDIC warned against the use of turn-key concepts as they would not be in the interest of the developing countries.

22. On the basis of the overall experience of the countries, the Symposium noted that lack of information and adequate knowledge were severe handicaps in the preparation of suitable contracts. It therefore urged that UNIDO/ESCAP in collaboration with others interested should formulate guidelines or standard forms to assist pipeline construction companies, engineers and employers in the preparation, and negotiation of pipeline construction contracts.

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23. From the papers presented the following areas of concern were identified and discussed in detail:

(a) Concern Area No. 1: The parties and the contract between them

24. It was stressed that in case of contracting by several parties (on Contractor's or Employer's side), each party should sign the agreement. For reasons of clarity, formal agreements seem to be preferable to Letters of Order and separate Letters of Acceptance. The views varied to what extent approval of the Employer for subcontracting by the Contractor should be required. A view was expressed favouring prior approval to all subcontracting activities of the Contractor in order to keep control on the project. Another view was expressed to dispense with approval requirements altogether, as liability continued to lie on the side of the Contractor. One country thought that at least the technical and commercial capability of subcontractors should be examined and approved by the Employer without the need for approval of any and all terms of the intended subcontracts. It was mentioned that too much interference by the Employer in the choice of the subcontractors might reduce his contractual rights against the Contractor.

(b) Concern Area No. 2: Scope of supplies and services

25. It was proposed that clear regulations should be made with regard to the amount of supplies and services to which the Contractor is obliged. Otherwise, additional unforeseen costs could arise to the Employer. Contractors expressed the view that they could only be expected to deliver what they had been asked for in the contract. In case of technological developments after contract dates, additional costs caused thereby should be recoverable by the Contractor. It was mentioned that the problem was diminished in cases in which the Employer contributed most of the materials (line pipes and other materials) for the pipeline system. It was finally felt that in those cases the most efficient way for the solution of the problem should be discussed and agreed between the Contractor and the Employer.

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(c) Concern Area No. 3: Transportation of line pipes, other materials and equipment

26. In order to allocate responsibility, it was proposed that thorough checking and inspection of materials prior and after transportation should take place. The point of handing over of materials before transportation and after transportation and the influence of possible transfer of risks should be clearly defined in the agreement. It was mentioned that early regulation of transportation questions would facilitate logistical considerations and appropriate allocation of transportation activities within the overall construction concept. The view was expressed that the Contractor was normally in a better position to affect transportation than the Employer. The Symposium noted that in one country, in order to avoid risk of damage to the coating of the line pipes, small coating yards close to the job site were established. It was mentioned that in other countries local transportation companies existed who should be engaged in the transportation within the country.

(d) Concern Area No. 4: Price and terms of payment

27. It was felt that in pipeline construction lump sum, unit price and daily rates should be normally the appropriate price system. Only in exceptional cases costs plus arrangements were felt feasible. Consequences of inflation could be covered by escalation clauses and use of national living cost indices. Delay through currency transfer restrictions could also be covered by escalation clauses. Anticipated local supplies and services should be paid in local currency. A view was expressed that 5 per cent down payment and 10 per cent retention (to be released with the expiration of the warranty period) was a usual payment term. Concerns were expressed that contractors be sometimes misused as financing agencies. In addition, they were concerns that budgetary restraints and other internal regulations within Employer's organization has been often the cause for payment delays.

(e) Concern Area No. 5: Time of delivery - delay - consequences of delay

28. It was generally felt that in many cases the period allowed for completion of the work was extremely short. The date for the start of

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the construction programme seems to be different and be sometimes receipt of the letter of intent, conclusion of contract, receipt of L/C or down payment. It was felt that circumstances of force majeure should excuse Contractor's delay in completion and relevant idle time would be compensated to the Contractor. In case of unexcusable delay, the Contractor should be obliged to make good the delay at his own cost. If he exceeded relevant dates, liquidated damages should be payable with a maximum amount being 10 per cent of the contract price. Some particularly referred to a grace period which could be provided for in the contract or granted to the Contractor in case the Employer does not suffer disadvantage from delay especially in cases in which he is not yet ready to use the pipeline system. The discussion focussed on the appropriate definition of force majeure by the parties (narrow and wide version). It was felt that shortage of own materials should not excuse contractors for delay, but that any reason beyond the reasonable control should do so. As consequence of the Employer's interest in early completion, the granting of a bonus for completion should also be considered.

(f) Concern Area No. 6: Taking-over and use of pipeline system

29. The Symposium agreed that after mechanical completion and successful completion of performance test, the pipeline system should be taken over by the Employer. A view was expressed urging that the Contractor should remain responsible for a specified period after the take-over. It was mentioned that the take-over procedures for oil and gas pipelines are different, but that in any case take-over activities should be planned well in advance. In order to reduce stand-by and other costs chargeable to the Employer in cases in which performance test and take-over could not take place due to reasons for which the Employer is responsible. A view was expressed stressing the need to come to diverging take-over arrangements in such cases. In appropriate cases the possibility of taking over of part of the pipeline system was mentioned. It was also proposed that in such cases part of the performance guarantee should be released and it was felt adequate that additional bank charges for the non-released part should be compensated to the Contractor by the Employer.

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(g) Concern Area No. 7: Warranty - guarantee - liability

30. A view of concern was expressed that engineering companies were held liable under their contracts for damages completely disproportionate to the fee received under the agreement and the view was expressed that engineers' total liability should be limited to their contract fees. With regard to the Contractor, it was felt that it could only be liable for defects in materials delivered by the Contractor and for its workmanship, but not for materials supplied by Employer. A view was expressed that clear stipulation should be made for speedy repair or replacement of parts by the Contractor during the warranty period; the Employer could not be expected to incur heavy losses if the Contractor delayed repairs or replacement. It was felt that the stipulation of a one-year warranty period would be appropriate. However, a view was expressed urging to consider appropriate extension of warranty for latent defects. It was the general view that the Contractor should not be liable for consequential losses of the Employer as a consequence of defects. Reference was made to available testing procedures to detect existing defects during the original warranty period. It was mentioned that after longer periods allocation of responsibility would be extremely difficult. In cases in which the Employer delivers to the Contractor the complete design and engineering for the pipeline, no need for extension of liability would exist. With regard to arising damages and Contractor's possible responsibility therefore, the need for appropriate insurance coverage in favour of Employer or Contractor (as the case may be) was stressed.

31. With regard to the Contractor's total liability, it was felt that a maximum amount stipulated in the contract should be reasonable, to enable appropriate price calculation by Contractor. Considerable environmental risk as a consequence of pipeline construction projects should be covered by appropriate project insurance.

(h) Concern Area No. 8: Security

32. It was the general view that bid bonds and performance bonds were justified security. A view was expressed that, just as a contractor is required to give security for his bid, so the Employer should reciprocate by giving the Contractor the security of an assurance that a contract would

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actually be awarded to one of the bidders (award guarantee). Furthermore, in the interests of creating good relationships between Employers and Contractors, a view was expressed that the Employer, before going out for international tendering, should ensure and declare that all necessary consents (so far as possible) needed by the Employer had been obtained and other pre-conditions been fulfilled; otherwise, it would be most unfair to a Contractor forced with paying the expenses of bid preparation, if the Employer after further clarifications would abstain from the project. A view was expressed however that relevant risks were considerably small as feasibility studies had proven feasibility of the project prior to bidding stage. Another view was expressed stressing that any Employer should have the liberty, not to award the contract, if justified reasons were given. In certain countries bid bonds in the amount of up to 10 per cent of the contract value with three months' life time seem to be used; performance bonds between 10 and 15 per cent of the contract value are normal practice. It was recognized that for smaller projects the relative amount of the bid bond could be higher than for larger projects.

33. Various concerns were expressed against the use of on-demand bonds by the Employer. It was mentioned that bonds should be payable upon objective events or should be conditioned upon delivery of acknowledging arbitration awards. The Symposium was advised of cases where a Contractor who had to supply an on-demand performance guarantee had successfully asked the Employer to agree to a counter-guarantee to be provided by the Employer, if he wanted to cash the guarantee.

(i) Concern Area No. 9: Termination - cancellation

34. It was felt that any termination or cancellation of a pipeline construction contract will delay the project and cause enormous additional costs and should therefore be very carefully considered by the parties and especially the Employer. A view was expressed that in case of any breach of contract by the Contractor, the Employer should be entitled to cancel the agreement and the Contractor should bear all costs in this case. It was suggested that in addition to termination and cancellation the possibility of suspension of a project should be regulated in the agreement. It was felt that especially due to national economic reasons, interruptions

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of the project realization could take place. In order to safeguard in such instances, regulations on Contractor's rights were felt to be justified. The view was expressed that the Contractor should be compensated for additional costs in this case.

(j) Concern Area No. 10: Applicable law - settlement of disputes

35. It was discussed that various national laws could apply to a contract: local laws, the laws of the country whose language was used in the contract, the laws stipulated in the contract and the laws applicable in the country of arbitration. It was felt that problems could arise from different applicable laws in the main contract and a particular subcontract. A view was expressed that country's national laws should apply to all contracts executed in the country and also that it would be reasonable to have all contracts concluded in local language. It was stressed that in cases of use of a language different to the applicable law, the laws of the country whose language was used might govern the interpretation of the agreement.

Transfer of Technological Know-how (Agenda Item No. 4)

36. ESCAP introduced the general paper on the subject (IHT/SYM83/T3), which pointed out that parties to the contract should carefully investigate their status of technological capabilities and then arrange in the most appropriate way for the transfer of technology from the donor's to the recipient's side. Furthermore, examples were given for the most appropriate arrangement of technology transfer during the various phases of pipeline construction contracts. Two other papers (IHT/SYM83/T11 and IHT/SYM83/T17) gave examples of technology transfer arrangements in Indonesia and highlighted risks and possibilities in relevant regulations. It was especially stressed that turn-key acquisition of pipeline systems would not promote the desired transfer of technological knowledge and that a detailed concept for the achievement of technology transfer should be elaborated and fixed already at the feasibility stage. The second paper on experience in Indonesia mentioned the various technological capabilities developed through transfer of knowledge in the pipeline construction area in the past. However, in sophisticated areas as for example automatic welding and the entire area of offshore construction, national capabilities did not exist yet. Training should therefore be intensified in these areas. The participants were informed that economic recession should in no case lead to a slowing-down of the technology transfer process.

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37. The discussion on the technology transfer subject brought out that the promotion and acceleration of the technology transfer process was in the national interest of the developing countries. Each country should, therefore, develop a detailed strategy on the choice of technologies in the pipeline construction industry and the effect of the development of relevant national engineering, contracting and subcontracting capabilities on other sectors of the industry in the country. It was generally felt that a price had to be paid for the acquisition of technological knowledge and that relevant costs should finally be borne by the country and not necessarily by the Employer if he was a private company. It was warned against arrangements being made with a view to national technology transfer policies but with no real intent to transfer valuable skills. The importance of technological qualification of local personnel was mentioned, especially the necessity to be able to receive, retain and absorb relevant technological knowledge. Action should be taken to ensure that acquired skills would not be lost. One country mentioned in this respect risks if trained personnel were shortly after training transferred to other jobs.

Development of Local Engineering Capabilities, Construction Skills and Use of Local Materials and Equipment (Agenda Item No. 5)

38. The Symposium noted the various joint activities of ESCAP and UNIDO (IHT/SYM83/T4A) in promoting the development of engineering capabilities of the developing countries of the ESCAP region and the proposed establishment of a regional network of industrial consultancy. A paper brought out in detail the project organization in the Indonesian Badak-Bontang Gas Pipeline Construction Project (IHT/SYM83/T12). It was shown that appropriate contractual arrangements between a variety of parties involved and especially the use of a separate engineering and project management contract had promoted necessary training on the job and transfer of valuable technological skills.

39. In case of use of local materials, quality problems should not be underestimated; furthermore, higher prices than prevailing in the international market could be expected. Document (IHT/SYM83/T13) dealt with the risks, which a local contractor had to face in Indonesia. From problems in the local material supplies market changes in specifications had arisen in some cases and caused delay and additional costs to a contractor.

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It was stressed that the technical qualification of the local work-force was still very low which was reflected in low discipline and productivity of work. To support the development of local engineering capabilities and relevant appropriate contractual arrangements, government assistance would be welcomed. In this connection, reference was made to the consensus between Ministers of Industry of the ESCAP region reached in 1979 and 1980 in Bangkok to the effect that there was a need for the creation of the basic capabilities for the generation and implementation of industrial projects. The document (IHT/SYM83/T17) also stressed that technology transfer could only be achieved through communication between people and appropriate communication arrangements should at the latest be elaborated and agreed upon at tender stage. Detailed work programmes, responsibility charts and job descriptions were needed to enable the choice of qualified candidates. Only if in developing countries clear concepts in this respect existed, development of local skills and use of local materials could be achieved as required.

40. The discussion on the subject reflected issues raised previously in the discussion on transfer of technological knowledge. In addition to necessary financial inputs for the acquisition of technical knowledge it was mentioned that funds had also to be allocated by the Employer, if local materials were to be used for the construction of the pipeline system. However, a view was expressed against unlimited risks in this respect. Another view was expressed that the Government should only allow a 15 per cent price bonus for use of local industries. It was furthermore stressed, that mechanisms should be worked out by the countries, to make the investments in technology acquisition measurable and its effectiveness controllable.

III. CONCLUSIONS AND RECOMMENDATIONS

41. The Symposium commended the efforts of UNIDO and ESCAP for the initiation and preparation of the Symposium. It expressed its thanks to the organizing committee for the excellent facilities provided and efficient organization of the Symposium. It was felt that the discussion and dialogue initiated by UNIDO and ESCAP were extremely useful for the exchange of views and dissemination of knowledge between employers,

contractors and engineers of the region in the pipeline construction area. The Symposium expressed its concern on unreasonable demands being often made during the negotiation of pipeline construction contracts and they felt that any efforts of UNIDO and ESCAP would find their approval which could promote the idea of fair and reasonable contract terms and facilitate the burdensome steps of their negotiations.

42. The Symposium therefore recommended that ESCAP and UNIDO should prepare, in co-operation with relevant international professional organizations and other experts a manual on the preparation and negotiation of pipeline construction contracts.

43. The manual should contain guidelines to employers, contractors, and engineers and specify reasonable and unreasonable demands. It should specify risk areas which fall within the responsibility of the relevant parties. Appropriate regulations to ensure technology transfer and the use of local materials, equipment and services should also be proposed. The question of standard forms for pipeline construction contracts (off-shore and on-shore) for use in the region may also be examined.

44. The Symposium urged UNIDO and ESCAP to study appropriate means which could activate and promote the technology transfer process in connection with pipeline construction contracts, and relevant use of domestic consultancy services and materials supplies. In this respect UNIDO and ESCAP should also have regard to the positive influence which international financing agencies could have on relevant choices.

45. It recommended that UNIDO and ESCAP should examine and closely study environment risks arising from pipeline construction projects in order to enable the taking of adequate precautionary measures. UNIDO and ESCAP should also study the problems of proper installation and maintenance of pipeline systems or parts thereof by developing countries and recommend measures for its elimination.

46. The Symposium strongly urged member countries, professional organizations of engineers and contractors and national oil companies to increase information dissemination and establish close linkages with

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each other in order to promote the use of fair and equitable contract terms in contractual practices, the technology transfer process and the use of local supplies and services in the pipeline construction industry. Several countries proposed that the formation of a regional association of National Oil Companies would be extremely useful and welcomed and UNIDO and ESCAP should promote the idea and take all necessary and possible action to achieve such target. It was also proposed that meeting of this kind should be convened by UNIDO and ESCAP in regular intervals to inform each other on new developments, problems and possibilities.

47. The Symposium declared its willingness to assist UNIDO and ESCAP in its work and to give both organizations all relevant information on contractual practices in this field to facilitate the work.

48. The Symposium strongly urged UNIDO and ESCAP to publish the proceedings and papers used in the Symposium and make it available to the participants and all interested persons and organizations.

IV. ADOPTION OF THE REPORT

49. The Symposium unanimously adopted the report on 2 September 1983.

APPENDIX: I

LIST OF DOCUMENTS

1.	Overview of contracts for the construction of oil and gas pipelines in developing countries by J.F. Salter, Consultant, Secretariat's paper	IHT/SYM83/T1
2.	Overview of current international practices in contracts for the construction of oil and gas pipelines by Robert W. Jewkes, Consultant, Secretariat's paper	IHT/SYM83/T1A
3.	Regulatory infrastructure and contract approval requirements in developing countries with special reference to ESCAP countries by H.A. Janiszewski, UNIDO, Secretariat's paper	IHT/SYM83/T2
4.	Transfer of technical know-how in pipeline construction projects by Paul R. Strunk, ESCAP, Secretariat's paper	IHT/SYM83/T3
5.	Development of Engineering Capabilities by R.M. Notosuwarso, ESCAP, Secretariat's paper	IHT/SYM83/T4A
6.	Country paper of Bangladesh by Giasuddin Ahmed and M.A. Manna	IHT/SYM83/T4
7.	Country paper of China - A general introduction to pipeline construction contracts in China - by Zhang Zhong Lian and Song Zhen Zhi	IHT/SYM83/T5
8.	Country paper of India by T.N. Bhargava	IHT/SYM83/T6
9.	Country paper of Indonesia prepared by Pertamina	IHT/SYM83/T7
10.	Country paper of Malaysia by Mohamad Nor Haji Hamid and Chew Boon Cheong	IHT/SYM83/T8
11.	Country paper of Thailand by Bodin Asavanich	IHT/SYM83/T10
12.	Transfer of technology. Involvement of national resources and engineering contractual aspects by Ary Mochtar Pedju, P.T. Encona, Indonesia	IHT/SYM83/T11
13.	Use of local resources in the Badak - Bontang gas pipelines project - by Tri Patra Engineering, Indonesia	IHT/SYM83/T12
14.	Construction of oil and gas pipelines in Indonesia - Role of a national contractor - by Triawan Saleh, Meta Epsi Engineering, Indonesia	IHT/SYM83/T13
15.	Republic of Korea experiences in the design and construction of oil and gas pipelines by Min Che Chon	IHT/SYM83/T14

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16.	Contracts for the construction of oil and gas pipelines by G.D. Campbell, FIDIC	IHT/SYM83/T15
17.	Allocation of risk in the construction contract by Richard A. Eastman, IBA	IHT/SYM83/T16
18.	A specifically formated programme to be made mandatory for cross country engineering contracts by R.M. Hadjiwibowo P.T. Branusa, Indonesia	IHT/SYM83/T17
19.	Oil and gas pipeline construction transfer of technical know-how by Harli Saleh, Pertamina, Indonesia	IHT/SYM83/T18
20.	Pipeline as safe oil transportation means in Java Island by Abdur Roni, Pertamina, Indonesia (an informative paper).	

APPENDIX II

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