COMMISSION OF THE EUROPEAN COMMUNITIES

COM(75) 676 final.

Brussels, 19 December 1975

Modification of the annex to the document "Proposal for a Council decision on the grant of measures of support for Community projects in the hydrocarbons sector".

COM(75) 676 final.

ANNEX

APPRECIATION OF TECHNOLOGICAL DEVELOPMENT PROJECTS UNDER THE CONDITIONS OF REGULATION No 3056/73

YEAR 1975

AREA OF TECHNOLOGICAL DEVELOPMENT : 01: GEOPHYSICS

No	Name of the project and responsible person	Duration (years)	Investment or expenses envisaged during the period 1975/1977 in UC	ACCEPTABILITY : Does the project have a technological development aspect ?	ACCEPTABILITY : Is the natural or legal person who is responsible for the project constituted according to the provisions of Article 3 of regulation 3056/73	CAPACITIES OF THOSE RESPONSIBLE : Financial	CAPACITIES OF THOSE RESPONSIBLE : Technical	ESSENTIAL NEASURE : Delay in the execution of the work if support is not granted : Less than one year	Between one and five years	More than five years	Project abandoned	IMPORTANCE FOR THE COMMUNITY : Additional production in 1985 oil/gas in t.o.e.	1985 oil/gas in t.o.e.	Acceleration of production : Less than five years	Between five and ten years	More than ten years	Elimination of bottlenecks
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
01.01	Methodology for detailed seismic study of oil and gas fields [illegible]	3	2,035,000	no	yes	x	x	--	--	--	--	-	-	-	-	-	-
01.02	Study of problems related to seismic study at sea [illegible]	3	3,000,000	yes	yes	x	x	-	-	x	-	-	-	-	-	-	-
01.03	Research into methodologies and geophysical techniques related to complex geological situations AGIP-CGG	6	5,200,000	yes	yes	x	x	-	-	x	-	-	-	-	x	-	-
01.04	Geotechnical studies of sea bottom and sub-bottom in deep water conditions CGG-SERCEL	2	[illegible],000	yes	yes	x	x	-	x	-	-	-	-	-	x	-	-
01.05	Study concerning the preliminary reconnaissance of deep water areas [illegible]	2	900,000	yes	yes	x	x	-	-	x	-	-	-	x	-	-	-
01.06	Development of a shipboard online seismic data processor NATIONAL SCIENCE COUNCIL OF IRELAND	3	160,000	no	yes	x	x	-	-	-	x	-	-	-	-	-	-

No	APPRECIATION OF THE TECHNICAL RISKS : Great	Average	Small	APPRECIATION OF THE SITUATION : Technical : Insufficient equipment and/or existing techniques	Economic : Number and/or extent of possible applications : In the Community	In the world	DEGREE OF INNOVATION in relation to the state of existing technology : Corresponding to the state of the art	Improvement by stages	Complete innovation	Risks of duplication : With other existing techniques	With techniques under development	POSSIBILITY OF COMBINATION WITH SIMILAR PROJECTS :	JUSTIFICATION OF MEANS ENVISAGED : Relation between means envisaged and foreseeable results : Suitable	Not justifiable	OTHER OBSERVATIONS	CONCLUSIONS
1	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
01.01	-	-	-	-	In competition with others - general		-	x	-	x	-	-	x	-	Hydrophones and sources for ships equipment as to be found elsewhere	Improvement of sources and adaptation of hydrophones is a general problem. Favourable results reached in a special case are scarcely to be produced elsewhere. The results of the projects are therefore especially advantageous to the applicants. Proposition: not to be supported
01.02	-	-	x	x	5-10	--	-	x	-	x	-	-	x	-	Development of new types of hydrophones and sources following the results of the survey of uncommon geological structures	The expected results will supply the knowledge of uncommon highly promising geological structure if the results would be submitted completely to interested companies. Proposition: support to 40%
01.03	-	-	x	-	3-5	--	-	x	-	x	-	-	x	-	Only slight technological development	The importance of the technological development will be compensated by optimising known techniques in order to search very complicated geological structures. Proposition: support to 40%
01.04	-	x	-	x	--	--	-	x	-	x	-	-	x	-	Further development of a known navigation procedure	With the improvement of navigation techniques of ships envisaged, the evaluation of seismograms will be improved. Proposition: support to 40%
01.05	x	-	-	x	--	--	x	-	-	x	-	-	x	-	Ship's equipment with measuring devices on the market for magnetometry, processing, gravimetry, navigation and sampling in order to search reservoirs under the deep sea	Seismic surveys executed by means of purchasing a ship equipped with devices within the framework of this project and project 01.01 (above) are especially advantageous to the applicants. Proposition: not to be supported
01.06	100%	-	-	-	--	--	x	-	-	x	-	-	x	-	Application of known techniques for the geophysical evaluation	The scheduled equipment is available on the market. The envisaged procedure does not seem to be feasible technologically. It demands a rough preliminary evaluation which is not feasible aboard ship. Proposition: not to be supported

ANNEX

AREA OF TECHNOLOGICAL DEVELOPMENT : 02 - DRILLING

APPRECIATION OF TECHNOLOGICAL DEVELOPMENT PROJECTS UNDER THE CONDITIONS OF REGULATION No 3056/73

YEAR 1975

No	Name of the project and responsible person	Duration (years)	Investment or expenses envisaged during the period 1975/1977 in UC	ACCEPTABILITY: Does the project have a technological development aspect?	ACCEPTABILITY: Is the natural or legal person who is responsible for the project constituted according to the provisions of Article 3 of regulation 3056/73	CAPACITIES OF THOSE RESPONSIBLE: Financial	CAPACITIES OF THOSE RESPONSIBLE: Technical	ESSENTIAL MEASURE: Delay in the execution of the work if support is not granted: Less than one year	Between one and five years	More than five years	Project abandoned	IMPORTANCE FOR THE COMMUNITY: Additional production in 1985 oil/gas in t.o.e.	1985 oil/gas in t.o.e.	Acceleration of production: Less than five years	Between five and ten years	More than ten years	Utilisation of hardware
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
02.02	Design and construction of a dynamically positioned drillship BP TRADING C.	3	9,035,000 (1)	Yes	Yes	x	x	-	x	-	-	-	-	-	x	x	-
02.04	Development of marine drilling risers BP TRADING CO.	2	537,600	Yes	Yes	x	x	x	-	-	-	-	-	-	x	-	-
02.05	Design and development of new drilling equipment for a dynamically positioned drillship BEN ODECO LTD	2	3,900,000	Yes	Yes	x	x	-	x	-	-	-	-	-	x	-	-
02.06	Development of drilling equipment and general facilities for a dynamically positioned drillship SCOTT LITHGOW LTD.	2	702,000	Yes	Yes	x	x	x	-	-	-	-	-	-	x	-	-
02.05	Novel polymer system for oil based drilling muds BP TRADING CO	2	363,050	Yes	Yes	x	x	-	x	-	-	-	-	x	-	-	-
02.07	Development of a new cement for exploratory drilling REDPATH ENG CO LTD	3	732,000	Yes	Yes	x	x	-	x	-	x	-	-	-	-	x	-
02.08	Surface readings of borehole inclination and directional drilling BURGE WEBB	3	600,000	Yes	Yes	x	x	-	x	-	-	-	x	x	-	-	-
02.10	Production of drilling modules CLEVELAND BRIDGE CO	2	2,200,000	Minimal	Yes	x	x	-	-	-	x	-	-	-	-	-	-

No	APPRECIATION OF THE TECHNICAL RISKS: Great	Average	Small	APPRECIATION OF THE SITUATION: Technical: Insufficient equipment and/or existing techniques	Economic: Number and/or extent of possible applications: In the Community	In the world	DEGREE OF INNOVATION in relation to the state of existing technology: Overtaking the state of the art	Improvement by stages	Low intensive application	Place of development: with other existing techniques	with techniques under development	POSSIBILITY OF COMBINATION WITH SIMILAR PROJECTS	JUSTIFICATION OF MEANS ENVISAGED: Relation between means envisaged and foreseeable results: Justified	Not justifiable	OTHER OBSERVATIONS	CONCLUSIONS
1	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
02.02	x	-	-	x	considerable		-	-	x	-	x	Scott Lithgow and Ben Odeco	x	-	Development for drilling in 2000 m of water	Project to be developed with SEDCO Inc. All aspects included Proposition: support to 40%.
02.04	-	x	x	(a)	-	-	-	x	-	x	-	Aberdeen Univ. results would be applied to proposals 02.06 08 SEDCO 1976	x	-	Identify stresses and strains in an existing riser	Objectives are to develop riser design and formulate code of practice (no hardware) Proposition: not to be supported.
02.05	-	-	x	x	considerable		-	x	-	-	x	Cfr. BP and Scott Lithgow 02.02 02.06	x	-	Development for drilling in 1200 m of water	Development cover marine riser study and B.O.P. control (destined for a new drillship) Proposition: support to 40%.
02.06	-	-	x	x	same		x	-	-	-	x	Cfr. Ben Odeco and BP	x	-	Development of supporting systems for 1000 m	Development covers mud systems, cement systems and handling on board. Appraisal of diving requirements also included. Not receivable. Normal industrial development. Proposition: not to be supported.
02.05	-	x	-	x	considerable		-	x	-	-	x	-	x	-	75% chance of success	Improving drilling Proposition: not to be supported.
02.07	x	-	-	-	-	-			-	x	-	-	x	x	Far too ambitious for the Company	To reject Proposition: not to be supported
02.08	x	-	-	-	-	-	-	x	-	-	x	-	x	-	The weak point of the project is the dependence on development of cables to withstand very high temperatures.	All others tackling this field are moving away from physical transmission of data. Priority: normal industrial rationalising drilling operation. Proposition: not to be supported.
02.10	-	-	x	(a)	same				-	-	-	-	-	x	Only module - design is not admissible under Regulation 3056	Concept of drilling module useful, but proposal needs considerable development in association with drilling company Proposition: not to be supported.

(1) Reduced amount by the Commission (13,1[illegible] - [illegible])

ANNEX

APPRECIATION OF TECHNOLOGICAL DEVELOPMENT PROJECTS UNDER THE CONDITIONS OF REGULATION No 2256/72

MAR 1975

AREA OF TECHNOLOGICAL DEVELOPMENT : 03: PLATFORMS, ANCHORING AND PILING

No	Name of the project and responsible person	Duration (years)	Investment or commitments previously and during the period 1975/1977 in u.c.	ACCEPTABILITY : Does the project have a technological development aspect ?	ACCEPTABILITY : Is the natural or legal person who is responsible for the project considered according to the provisions of Article 3 of regulation 2256/72	CAPACITIES OF THOSE RESPONSIBLE : Financial	CAPACITIES OF THOSE RESPONSIBLE : Technical	ESSENTIAL MEASURE : Delay to the execution of the work if support is not granted : Less than one year	ESSENTIAL MEASURE : Between one and five years	ESSENTIAL MEASURE : More than five years	ESSENTIAL MEASURE : Project abandoned	IMPORTANCE FOR THE COMMUNITY : Additional production to : 1985 oil/gas in t.o.e.	IMPORTANCE FOR THE COMMUNITY : Additional production to : 1985 oil/gas in u.c. t.o.e.	IMPORTANCE FOR THE COMMUNITY : Acceleration of production : Less than five years	IMPORTANCE FOR THE COMMUNITY : Acceleration of production : Between five and ten years	IMPORTANCE FOR THE COMMUNITY : Acceleration of production : More than ten years	IMPORTANCE FOR THE COMMUNITY : Elimination of bottlenecks	APPRECIATION OF THE TECHNICAL RISKS : Great	APPRECIATION OF THE TECHNICAL RISKS : Average	APPRECIATION OF THE TECHNICAL RISKS : Small	APPRECIATION OF THE SITUATION : Technical : Institutional equipment and/or existing techniques	APPRECIATION OF THE SITUATION : Economic : Number and/or extent of possible applications : In the Community	APPRECIATION OF THE SITUATION : Economic : Number and/or extent of possible applications : In the world	DEGREE OF INNOVATION in relation to the state of existing technology : Corresponding to the state of the art	DEGREE OF INNOVATION in relation to the state of existing technology : Improvement by simple modification	DEGREE OF INNOVATION in relation to the state of existing technology : Completely innovative	DEGREE OF INNOVATION in relation to the state of existing technology : Basis of development : With other existing techniques	DEGREE OF INNOVATION in relation to the state of existing technology : Basis of development : With techniques under development	POSSIBILITY OF LINKING THE PROJECT WITH SIMILAR PROJECTS :	JUSTIFICATION OF MEANS ENVISAGED : Relation between means envisaged and foreseeable results : Suitable	JUSTIFICATION OF MEANS ENVISAGED : Relation between means envisaged and foreseeable results : Not justifiable	OTHER OBSERVATIONS	CONCLUSIONS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
03.01	The "Hank Faber" platform-spar HANK FABER BV	1	240,000	Yes	Yes	x	x	-	x	-	-	-	-	x	-	-	-	-	-	-	x	1985 (25-30)		-	x	-	-	-	EMI, IEMTA, Dowsons for flexible joints	x	-	relatively simple articulated structure entirely assembled in harbour; new type of flexible joint, re-assemble	Final development after feasibility study and model tests; no hardware ; fixed platform Propositions not to be supported
03.04	Safety of offshore structures TNO	2	134,000	No	Yes	x	x	--	--	--	--	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Limited to collection of fundamental data	Falls outside scope of reference established Propositions not to be supported
03.05	Calculation and measurement of the actions of an anchored floating drilling platform TNO	2	207,000	No	Yes	x	x	--	--	--	--	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Limited to collection of fundamental data	Falls outside scope of reference established Propositions not to be supported
03.06	Development of a 300 h.p. hydrostatic motor unit CARMAN BV	3	180,000	Yes	Yes	x	x	-	x	-	-	-	-	-	-	-	-	-	-	x	x	general for self propelled units		-	x	-	-	-	-	x	-	Improvement of transportation of heavy loads in offshore haulage	Not directly linked to transportation in the sense of Regulation 2256. Propositions not to be supported
03.07	Study of exploitation and storage platform in deep water (650 m) BOUYGUES (executed by E.B.A. (1))	2	1,000,000	Yes	Yes	x	x	-	-	-	x	-	-	x	-	-	Yes	-	-	-	production equipment for water depth of more than 300 m. not yet existent	3	3	-	x	-	-	-	IEMTA, HANK FABER, EMI, for flexible joints	x	-	Starting of new ideas	Concept studies and model tests; no hardware ; fixed platform Propositions not to be supported
03.08	Articulated platform EMI	2	1,192,000	Yes	Yes	x	x	-	x	-	-	-	-	x	-	-	-	only for the prototype of a joint			x	1985 2-5	1990 10-15	-	x	-	-	x	IEMTA "Production of hydrocarbons in deep waters", project agreed by the Council in 1974 04.15/ 03.07	x	-	Continuation with IEMTA, BOUYGUES, as far as the development of technological components is concerned, especially joints and cardans	Studies of components; construction and testing of a prototype joint Propositions not to be supported
03.09	Tripod structure for offshore platform INTERMARIT	2	1,216,000	Yes	Yes	x	x	-	x	-	-	-	x	x	-	-	-	-	-	-	-	2-3	-	-	x	-	x	-		x	-	New concept for cheaper construction	Project envisages use of existing technologies in different combinations Very little contribution for the future; fixed platform Propositions not to be supported
03.11	Research into a transferable concrete production platform STRUKTON BAU AG	4	1,115,000	Yes	Yes	x	x	-	-	x	-	50,000	-	-	x	-	-	-	-	-	building in shallow waters	25-30	-	-	x	-	x	-	Caledonian platform structures 03.22	x	-	Production from suitable fields	Right make economic production in up to 10 smaller fields by 1980 fixed gravity type platform Propositions not to be supported
03.12	Development of an automated mooring system SHARON ENG CO LTD	2	1,000,000	Yes	Yes	x	x	-	-	x	-	-	-	-	-	-	x	-	x	-	x	all platforms and [illegible]	-	-	-	x	-	-	03.05	x	-	Dynamic positioning by rapid modification of cable tension. The central point for the whole system, which supplies to platform and laying barges	In reducing the effect of the swell, the project is susceptible to increasing the duration of work on the installation. Directly connected with production and pipe laying operations. Propositions support to SBE

(1) Bureau d'Etudes Engineering et Ouvrages d'Art. S.p.l., Paris

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ANNEX

APPRECIATION OF TECHNOLOGICAL DEVELOPMENT PROJECTS UNDER THE CONDITIONS OF REGULATION No 3056/73

YEAR 1975

AREA OF TECHNOLOGICAL DEVELOPMENT : 03 PLATFORMS, ANCHORING AND PILING (Contd.)

No 1975	Name of the project and responsible person	Duration (years)	Investment or expenses envisaged during the period 1975/1977 in UC	ACCEPTABILITY : Does the project have a technological development aspect ?	ACCEPTABILITY : Is the natural or legal person who is responsible for the project carrying it out according to the provisions of Article 3 of regulation 3056/73	CAPACITIES OF THOSE RESPONSIBLE : Financial	CAPACITIES OF THOSE RESPONSIBLE : Technical	ESSENTIAL MEASURE : Delay in the execution of the work if support is not granted : Less than one year	Between one and five years	More than five years	Project abandoned	IMPORTANCE FOR THE COMMUNITY : Additional production to 1980 oil/gas in t.o.e.	1985 oil/gas in t.o.e.	Acceleration of production : Less than five years	Between five and ten years	More than ten years	Elimination of bottlenecks	APPRECIATION OF THE TECHNICAL RISKS : Great	Average	Small	APPRECIATION OF THE SITUATION : Technical : Insufficient equipment and/or existing techniques	Economic : Number and/or extent of possible applications : In the Community	In the world	DEGREE OF INNOVATION in relation to the state of existing technology : Corresponding to the state of the art	Improvement by stages	Complete innovation	Risks of duplication of : with other existing techniques	with techniques under development	POSSIBILITY OF COMBINATION ETC. WITH SIMILAR PROJECTS :	JUSTIFICATION OF MEANS ENVISAGED : Relation between means envisaged and foreseeable results : Suitable	Not justifiable	OTHER OBSERVATIONS	CONCLUSIONS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
03,13	Floating platform for the exploitation of oil and gas fields in deep waters TECHNIP	2	2,416,000	Yes	Yes	x	x	-	x	-	-	100,000 b/d	-	-	x	-	Yes, for deeper waters	x	-	-	x	10	25-30	-	-	x	-	x	Other TLP projects (1)	x	-	Would benefit by support from oil company or contractor	Moored semi-submersible with additional utilisation of produced gas and oil (TLP)(1). Proposition: support to 40%
03,14	Study and development of the design, construction and installation of fixed offshore platforms BP TRADING CO	3	6,530,000	Yes	Yes	x	x	x	-	-	-	-	-	-	-	-	-	-	-	-	x	general		-	-	-	-	-	-	x	-	Limited to collection of fundamental data	Falls outside scale of references established. Proposition: not to be supported
03,20	Intermediate and deep sea production platform VICKERS LTD	7	4,623,000 (2)	Yes	Yes	x	x	-	x	-	-	100,000 b/d	-	-	x	-	Yes, for deeper waters	x	-	-	x	5	25-30	-	-	x	-	x	Other TLP projects	x	-	Crude processing below sea level	Systematic approach to problems of design and development of economic structures for deep water. Proposal includes manufacture of major structures (TLP) (1). Proposition: to be supported to 40%
03,21	Research and development project for production of oil and gas from deep waters TAYLOR WOODROW LTD	3	8,672,000	Yes	Yes	x	x	x	-	-	-	-	-	-	x	-	Yes, for deeper waters	x	-	-	x	-	20-25	-	-	x	-	x	Total system of modules	x	-	Would benefit by support from oil company	Flexible approach to development of production system for deep water fixed or TLP. Proposition: support to 40%
03,22	Oil production platform CALEDONIAN PLATFORMS LTD	1	526,000	Yes	Yes	x	x	x	-	-	-	-	-	-	-	-	No	-	-	x	-	3	10		x	-	x	-	STRABAG BAU AG 03,11	x	-	Manufacture of structure in shallow water	Another method of building fixed structures. Proposition: not to be supported
03,24	Proposal for North Sea production platform BALENA STRUCTURES LTD	1	319,000	Yes	Yes	x	x	-	x	-	-	-	-	-	x	-	-	-	-	x	-	3	5-8	-	x	-	-	-	-	x	-	Improved construction and launching system	Excess emphasis on minimisation of processes, etc., without adequate proof and development of the structure feasibility. Proposition: not to be supported
03,25	Tension leg platform BLOHM & VOSS AG	2	95,000	Yes	Yes	x	x	-	-	x	-	-	-	-	x	-	Yes, for deeper waters	x	-	-	x	1	10	-	-	x	x	-	Other TLP projects	x	-	Separate storage needed outside structure	Proposal to optimise TLP systems. Proposition: delayed to 1976
03,26	GBS platform project OTEA-SCOTT LITHGOW	2	750,000	Yes	Yes	x	x	x	x	-	-	-	-	x	-	-	-	-	x	-	-	2	8	-	x	-	x	x	Other fixed structure projects	x	-	Design based on a SEAL patent	Steel gravity structure using thrust jacks for elevating. Proposition: not to be supported
03,27	Novel offshore production system BP TRADING CO	3	11 860,000	Yes.	Yes	x	x	-	x	-	-	-	-	x	-	-	-	x	-	-	x	numerous		-	-	x	-	x	Gravity based	x	-	-	This proposal relates to the systematic development of a total production system embracing deeper waters, smaller fields and shallow depth fields (TLP). Proposition: support to 40%
03,28	Floating natural gas liquefaction plant PREUSSAG AG	2	1,420,000	Yes	Yes	x	x	-	-	x	-	2-4 oil	7-12 oil	-	-	-	x	-	x	-	x	3-5	more than 10	-	x	-	-	-	Yes - with Salzgitter 03,29 and CRP system	x	-	Might make production economic in smaller fields	Supplementary production expected from fields where production otherwise not viable. Proposition: support to 40%
03,29	Production of LNG and methanol platforms SALZGITTER AG	2	1,835,000	Yes	Yes	x	x	-	-	x	-	2-4 oil	7-12 oil	-	-	-	x	-	x	-	x	3-5	more than 10	-	x	-	-	-	Yes, with Preussag AG 03,28 [illegible]	x	-	Might make production economic in smaller fields	Supplementary production expected from fields where production otherwise not viable. Proposition: support to 40%

(1) T.L.P.: tension leg platform

(2) Vickers: reduction proposed by the Commission (only design costs for 1975, 1976 and 1977)

ANNEX

APPRECIATION OF TECHNOLOGICAL DEVELOPMENT PROJECTS UNDER THE CONDITIONS OF REGULATION No 2606/77

YEAR 1975

AREA OF TECHNOLOGICAL DEVELOPMENT : 03: PLATFORMS, ANCHORING AND PYLONS (contd.)

No 1975	Name of the project and responsible person	Duration (years)	Investment or expenses envisaged during the period 1975/1977 in MC	ACCEPTABILITY : Does the project have a technological development aspect ?	ACCEPTABILITY : Is the natural or legal person who is responsible for the project entitled according to the provisions of Article 3 of regulation 2606/77)	CAPACITIES OF THOSE RESPONSIBLE : Financial	CAPACITIES OF THOSE RESPONSIBLE : Technical	ESSENTIAL MEASURE : Delay to the execution of the work if support is not granted : Less than one year	Between one and five years	More than five years	Project abandoned	IMPORTANCE FOR THE COMMUNITY : Additional production to : 1985 m³/d in T.o.e.	1985 m³/d in T.o.e.	Acceleration of production : Less than five years	Acceleration of production : Between five and ten years	Acceleration of production : More than ten years	Limitation of bottlenecks	APPRECIATION OF THE TECHNICAL RISKS : Great	Average	Small	APPRECIATION OF THE SITUATION : (Technical) Insufficient equipment and/or existing technology	(Economic) Number and/or extent of possible applications : in the Community	in the world	DEGREE OF INNOVATION in relation to the state of existing technology : corresponding to the state of the art	Represents a step forward	Constitutes an innovation	Risks of duplication of : with other existing projects	with projects under development	FEASIBILITY OF JOINT ACTION WITH SIMILAR PROJECTS :	JUSTIFICATION OF MEANS ENVISAGED : Relation between means envisaged and foreseeable results : Suitable	Not justifiable	OTHER OBSERVATIONS	CONCLUSIONS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
03.32	Mobile platform for power generation based on the gas production of small oil fields **CLIMAX BABCOCK & WILCOX**	3	2,800,000	yes	yes	yes	yes	-	-	x	-	30,000/50,000 kW		-	-	-	x	-	x	-	x	5-10 fields		-	x	-	-	-	Yes - with ECONOMIE	x	-	slight sake contain marginal fields commercial	Particularly attractive for low quality gas (i.e. High H2) which could not sake LNG or methanol Proposition: support to AGE
03.02	Heavy drop hammer **REID CARTER & WILSON**	3	720,000	yes	yes	no	yes	-	x	-	-	-	-	-	-	-	-	x	-	-	x	10	30-40	-	x	-	x	-	03.10 03.10 03.23	x	-	-	Proposition: not to be supported
03.10	A new pressure grouting process for inserting piles **SOLMARINE**	1	1,017,000	yes	yes	no	yes	-	x	-	-	-	-	-	-	-	x	-	x	-	x	20	30-40	-	x	-	-	-	03.20 03.02 03.23	x	-	Advantage for foundation works	Proposition: not to be supported
03.23	Underwater pile hammer (300 m) **KOMMANJEWERK**	3	740,000	yes	yes	no	yes	-	x	-	-	-	-	-	-	-	x	x	-	-	x	0	30-40	-	-	x	-	-	03.02	x	-	First to sea at this depth	Proposition: not to be supported
03.31	Offshore production system "Labop" project **FRIEDRICH FOR & PARTNERS**	2	1,000,000	yes	yes	no	no	-	x	-	-	-	-	-	x	-	-	x	-	-	x	15	25-30	-	-	x	-	x	Other TLP projects	x	-	World wide venture which suffers from lack of support by an oil company or a process contractor	Not to considered to bracket of top priority for platforms (TLP) Proposition: support to AGE

Development of foundation techniques for offshore platforms, with a view to their use in deep water

ANNEX

APPRECIATION OF TECHNOLOGICAL DEVELOPMENT PROJECTS UNDER THE CONDITIONS OF REGULATION No 2756/73

YEAR 1975

AREA OF TECHNOLOGICAL DEVELOPMENT : 06: PRODUCTION

No	Name of the project and responsible person	Duration (years)	Investment or commitments envisaged during the period 1975/1977 in u.a.	ACCEPTABILITY : Does the project have a technical development aspect ?	ACCEPTABILITY : Is the natural or legal person who is responsible for the project constituted according to the provisions of Article 2 of regulation 2756/73	CAPACITIES OF PUBLIC RES ORGANISE : Financial	CAPACITIES OF PUBLIC RES ORGANISE : Technical	ESSENTIAL FEATURE : Delay in the execution of the work if support is not granted : Less than one year	ESSENTIAL FEATURE : Between one and five years	ESSENTIAL FEATURE : More than five years	ESSENTIAL FEATURE : Project abandoned	IMPORTANCE FOR THE COMMUNITY : Additional production to : 1985 oil/ u.a.	IMPORTANCE FOR THE COMMUNITY : Additional production to : 1985 gas/ u.a.	IMPORTANCE FOR THE COMMUNITY : Acceleration of production : Less than five years	IMPORTANCE FOR THE COMMUNITY : Acceleration of production : BETWEEN five and ten years	IMPORTANCE FOR THE COMMUNITY : Acceleration of production : More than ten years	IMPORTANCE FOR THE COMMUNITY : Diversification of activities	APPRECIATION OF THE TECHNICAL RISKS : Great	APPRECIATION OF THE TECHNICAL RISKS : Average	APPRECIATION OF THE TECHNICAL RISKS : Small	APPRECIATION OF THE SITUATION : Form and Elements : Insufficient equipment and/or existing terminals	APPRECIATION OF THE SITUATION : Number and/or nature of possible applications : in the Community	APPRECIATION OF THE SITUATION : Number and/or nature of possible applications : in the world	SCALE OF INNOVATION in relation to the state of existing technology : Process : practically in the state of the art in the U.S.	SCALE OF INNOVATION in relation to the state of existing technology : Product : already in part in the U.S.	SCALE OF INNOVATION in relation to the state of existing technology : Process and product : for the first time	SCALE OF INNOVATION in relation to the state of existing technology : Flows of exchange of : with other existing Member States	SCALE OF INNOVATION in relation to the state of existing technology : Flows of exchange of : with the future wider development	COST TEST OF COMMUNITY INTERVENTION PROJECTS : UCPS :	DIFFICULTIES OF MEANS ENVISAGED : Duration between means envisaged and foreseeable results : Suitable	DIFFICULTIES OF MEANS ENVISAGED : Duration between means envisaged and foreseeable results : Not justifiable	OTHER OBSERVATIONS	CONCLUSIONS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
06.01	Elaboration of a reservoir model by the finite element method FRANLAC	2	265,000	yes	yes	no	no	-	x	-	-	8	1	-	-	-	-	-	-	x	x		general	-	x	-		04,05	39,02	x	-	Optimalization only No risks, no hardware, normal industrial matters Proposition: not to be supported	
06.06	Production offshore in Arctic zones ESSO	3(7)	5,797,000	yes	yes	no	no	-	-	x	-	1 field	2-3 fields	-	x	-	x	x	-	-	x	2-3	2-3	-	-	x	-	-	-	x	-	Very uncertain both technical and economical development	Hardly support to promote future development of arctic fields Proposition: support to ESE
06.08	Separation process SF PRODUCTS CO	5	1,130,000	yes	yes	no	no	-	x	-	-	-	-	-	x	-	-	-	-	x	x	oil: 8 fields	gas: 4 fields	-	x	-	-	-	-	x	-	-	Should reduce size and cost of platforms and make small fields economic Proposition: support to ESE
06.10	Centrifugal separation of crude oil/water ESSO SE	2	383,000	yes	yes	no	no	-	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	-	-	-	-	x	-	-	Normal industrial development matter. No risks. Proposition: not to be supported
06.11	Adaptation of drilling mud-consumables for diverse climates ESSO SE	2	380,000	yes	yes	no	no	x	-	-	-	-	-	-	-	-	-	-	-	x	x	-	-	x	-	-	-	-	-	x	-	Already accomplished	No risks - normal industrial matter Proposition: not to be supported
06.15	Production project 100-200 m ESSO SE	5	77,500,000	yes	yes	no	no	-	x	-	-	-	-	2 fields	-	-	-	-	x	-	x	-	-	x	-	-	x	x 03,38	03,07; 23,00	x	-	-	Proposition: delayed to 1978

ANNEX

APPRECIATION OF TECHNOLOGICAL DEVELOPMENT PROJECTS UNDER THE CONDITIONS OF REGULATION No 3056/73

YEAR 1976

AREA OF TECHNOLOGICAL DEVELOPMENT : 05: SECONDARY RECOVERY INCLUDING OIL SHALES

No	Name of the project and responsible person	Duration (years)	Investment or expenditure envisaged during the period 1975/1977 in UC	ACCEPTABILITY : Does the project have a technological development aspect ?	ACCEPTABILITY : Is the natural or legal person who is responsible for the project constituted according to the provisions of Article 3 of regulation 3056/73	CAPACITIES OF THOSE RESPONSIBLE: Financial	CAPACITIES OF THOSE RESPONSIBLE: Technical	ESSENTIAL MEASURE : Delay in the execution of the work if support is not granted: Less than one year	Between one and five years	More than five years	Project abandoned	IMPORTANCE FOR THE COMMUNITY : Additional production to: 1985 oil/gas in t.o.e.	1995 oil/gas in t.o.e.	Acceleration of production: Less than five years	Between five and ten years	More than ten years	Elimination of bottlenecks
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
05.01	Improved crude oil production and treatment BP TRADING CO	3 (5)	1,482,000	yes	yes	x	x	-	x	-	-	5.10^6 (e.g. Forties)	15.10^6	-	-	-	-
05.02	Pilot project of microemulsion and polymer floods in the Chateaurenard reservoir GERTH	3	3,500,000	yes	yes	x	x	-	x	-	-	4.10^6	$<4.10^6$	-	-	-	-
05.03	Development of heavy oil production from tar sands in Federal German Republic WINTERSHALL	3	1,365,000	yes	yes	x	x	-	x	-	-	85.10^3	2.10^6	-	-	-	-
05.04	Hydrocarbons recovery from chalk deposits SHELL INTERNATIONAL	2	11,000,000	yes	yes	x	x	-	-	-	x	Increasing recovery factor from 7 to 22%		-	-	-	-
05.05	Exploitation of oil shale deposits GERTH	1	353,000 (1)	partial	yes	x	x	x	-	-	-	-	-	-	-	-	-

No	APPRECIATION OF THE TECHNICAL RISKS: Great	Average	Small	APPRECIATION OF THE SITUATION: Technical: Insufficient equipment and/or existing techniques	Economic: Number and/or extent of possible applications: In the Community	In the world	SCOPE OF INNOVATION in relation to the state of existing technology : Overreaching the state of the art	Advancement by stages	Completing innovation	Risks of duplication of: with other existing techniques	with techniques under development	COMPATIBILITY OF WORK ON IT WITH SIMILAR PROJECTS :	JUSTIFICATION OF MEANS ENVISAGED: Relation between means envisaged and foreseeable results: Suitable	Not justifiable	OTHER OBSERVATIONS	CONCLUSIONS
1	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
05.01	-	x	-	x	20	general	-	x		-	-	AGIP *% SHELL *% 05.02 05.03 05.04	x	-	Increased recovery with comparatively low capital investment	General application in more on- and offshore worldwide. Proposition: support to 40%
05.02	-	x	-	x	20	general	-	x		-	-	AGIP *% SHELL *% 05.01 05.03 05.04	x	-	.. .. ..	General application in more on- and offshore worldwide. Proposition: support to 40%
05.03	-	x	-	x	20	general	-	x		-	-	AGIP *% SHELL *% 05.01 05.02 05.04	x	-	.. .. ..	Field cannot be produced without this development programme. Total alternate recovery could achieve $7,000.10^6$ t. Proposition: support to 40%
05.04	-	x	-	x	20	general	-	x		-	-	AGIP *% SHELL *% 05.01 05.02 05.03	x	-	.. .. ..	Success with this project could, if results applied, provide an additional 80.10^6 t. of crude oil Proposition: support to 40%
05.05	-	-	-	-		general	x	x		-	-	-	x	-	Wealth of knowledge available in Germany, USA and elsewhere	The technical content of this project requires 353,000 u.a. only Proposition: support to 40%

(1) Reduced amount proposed by the Commission (910,000 - 557,000)

ANNEX

APPRECIATION OF TECHNOLOGICAL DEVELOPMENT PROJECTS UNDER THE CONDITIONS OF REGULATION No 3796/73

MAY 1975

AREA OF TECHNOLOGICAL DEVELOPMENT : 06: ENVIRONMENTAL INFLUENCES ON LIFE EQUIPMENT OFFSHORE — 07: SERVICE SHIPS AND SUBMERSIBLES

No	Name of the project and responsible person	Duration (years)	Investment or expenses envisaged during the period 1975/1977 in u.c.	ACCEPTABILITY : Does the project have a technological development aspect ?	ACCEPTABILITY : Is the natural or legal person who is responsible for the project considered according to the provisions of Article 3 of regulation 3796/73	CAPACITIES OF MUSE MEMBERS : Financial	CAPACITIES OF MUSE MEMBERS : Technical	ESSENTIAL MEASURE : Delay to the execution of the work if support is not granted : less than one year	ESSENTIAL MEASURE : Delay to the execution of the work if support is not granted : between one and five years	ESSENTIAL MEASURE : Delay to the execution of the work if support is not granted : more than five years	ESSENTIAL MEASURE : Delay to the execution of the work if support is not granted : Project abandoned	IMPORTANCE FOR THE COMMUNITY : Additional production to : 1985 all type in t.s.d.	IMPORTANCE FOR THE COMMUNITY : Additional production to : 1985 all type in t.s.d.	IMPORTANCE FOR THE COMMUNITY : Acceleration of production : less than five years	IMPORTANCE FOR THE COMMUNITY : Acceleration of production : between five and ten years	IMPORTANCE FOR THE COMMUNITY : Acceleration of production : more than ten years	IMPORTANCE FOR THE COMMUNITY : Diversification of activities	APPRECIATION OF THE TECHNICAL RISKS : Great	APPRECIATION OF THE TECHNICAL RISKS : Average	APPRECIATION OF THE TECHNICAL RISKS : Small	APPRECIATION OF THE SITUATION : Technics : Institutional equipment and/or marketing techniques	APPRECIATION OF THE SITUATION : Economics : Number and/or extent of possible applications : In the Community	APPRECIATION OF THE SITUATION : Economics : Number and/or extent of possible applications : In the world	DEGREE OF INNOVATION in relation to the state of the art in the : corresponding technics : In relation to the state of the art	DEGREE OF INNOVATION in relation to the state of the art in the : corresponding technics : Compared with other existing techniques	DEGREE OF INNOVATION in relation to the state of the art in the : corresponding technics : Risk of duplication with techniques under development	SECTOR(S) OF ACTIVITY TO WHICH THE PROJECT APPLIES : NACE's :	DEGREE OF NEARLY ENVISAGED : Relation between means envisaged and foreseeable results : suitable	DEGREE OF NEARLY ENVISAGED : Relation between means envisaged and foreseeable results : not suitable	OTHER OBSERVATIONS	CONCLUSIONS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
06.02	Measure of water movements and their effect on submerged structures CNEXO	2	792,000	small	yes	n	n	-	x	-	-	-	-	-	-	-	-	-	-	x	x	-	-	x	-	-	-	-	06.02 to 07.02 03.12	x	-	Partly an anomaly of proven parts, system applicable to all platforms and barges	The setting up of this system foresees the improvement of safety factors for the construction of the structures should fall entirely on the industry, taking into account the small risks and the size of the potential market. Technological development anticipated is small. Applicable to production activities. Proposition: not to be supported
06.03	Optical system for small measurements from aerial photographs CERCO	2	709,000	n	yes	n	n	-	x	-	-	-	-	-	-	-	x	-	x	-	x	-	-	-	x	-	-	-	06.01 06.04 07.07	-	-	Applicable to activity planning for all platforms barges, heavy engines with navigation difficulties and the study of sites	Because the system provides a view of the directional energy of the swell, it permits the actualization of activity of submerged engines, diving or subtle and consequently the realization of large economies. It can of the two sites select the most favourable sites for placing fixed structures Applicable to production and pipe laying. Proposition: not to be supported
06.04	Use of ESP techniques for sea state forecasting OTTAN	1	150,000	no	yes	n	n	-	x	-	-	-	-	-	-	-	x	-	-	x	x	-	-	x	-	-	-	-	06.01 to 07.02 03.12	-	-	Construction of a parametric model for the improvement of meteorological forecasts	The project envisages the setting up of a method of calculation using existing material - there is no technological development and the steps are small and directly connected with basic activities - No technological development. Proposition: not to be supported
06.05	Swell damper to protect offshore installations BERTIN	1	270,000	yes	yes	in	n	-	-	x	-	-	-	-	-	-	x	-	x	-	x	1 platform and barges	all platforms and barges	-	x	-	-	-	06.01 to 07.02 03.12	x	-	Applicable to all fixed submerged structures. The object is an initial study and follow up to the stage before sea trials	The proposed system could increase the vessel activity time on platforms and barges. Overall applicable to production and pipe laying activities. Proposition: support to 30%
07.01	Service package unit for offshore soil investigation PRINSES AG	2	3,500,000	yes	yes	n	n	-	-	x	-	-	-	-	-	-	x	-	x	-	x	each time before drilling or laying pipe on platforms or tanks	all platforms and barges	-	x	-	-	-	07.02 06.01 01.04 01.05	x	-	Construction of a boat especially for the study of offshore soil conditions	Necessary for pipelaying, reservoirs or platform siting, the study of soil characteristics offshore is actually done with the old standard fitted out units. The building of a special boat would enable greater depths to be reached, to increase accuracy of measurement and reduce operation costs. Assistance to a major activity. Proposition: support to 30%
07.02	Soil investigation North Sea FUGRO OCEAN	2	276,000	yes	yes	in	in	-	x	-	-	-	-	-	-	-	x	-	x	-	x	All platforms and barges		-	x	-	-	-	07.01 06.01 01.04 01.05	x	-	Perfecting techniques and equipment	This project envisages developing materials to equip the ship which PRINSES AG will build and increase its possibilities. The two proposals are complementary and consequently the previous conclusion applied to FUGRO OCEAN's project. Assistance to a major activity. Proposition: support to 30%
07.03	Design and construction of a submarine vehicle for work and inspection operations (Telemob) TECHNIP	3	7,807,000	yes	yes	in	in	-	-	x	-	-	-	-	-	-	x	x	-	-	x	-	-	-	x	-	-	-	07.01 07.02 to 07.09 06.01 06.04	x	-	Feasibility study completed	Existing submarine vehicles are always manned and limited in work time and depth (200 m). The MAT TECHNOLOGY telecommanded vehicle, now being built, was conceived for recovery operations and remains on the sea bottom. A telerobot must give the same services as a manned submarine but at depths up to 1000 m and of almost limitless duration. Applicable to major activities of project technology and concerning the technological development of the next generation of machinery. Proposition: support to 30%

ANNEX

APPRECIATION OF TECHNOLOGICAL DEVELOPMENT PROJECTS UNDER THE CONDITIONS OF REGULATION No 2506/72

YEAR 1975

AREA OF TECHNOLOGICAL DEVELOPMENT : 07- SERVICE SHIPS AND SUBMERSIBLES — DG: DVIIIB

No	Name of the project and responsible person	Duration (years)	Investment or expenses envisaged during the period 1975/1977 in UC	ACCEPTABILITY : Does the project have a technological development aspect?	ACCEPTABILITY : Is the natural or legal person who is responsible for the project considered according to the provisions of Article 3 of regulation 2052/71	CAPACITIES OF THOSE RESPONSIBLE : Financial	CAPACITIES OF THOSE RESPONSIBLE : Technical	ESSENTIAL MEASURE : Delay in the execution of the work if support is not granted : less than one year	ESSENTIAL MEASURE : between one and five years	ESSENTIAL MEASURE : more than five years	ESSENTIAL MEASURE : Project abandoned	IMPORTANCE FOR THE COMMUNITY : additional production in 1985 of oil/gas in t.o.e.	IMPORTANCE FOR THE COMMUNITY : Acceleration of production : less than five years	IMPORTANCE FOR THE COMMUNITY : Acceleration of production : between five and ten years	IMPORTANCE FOR THE COMMUNITY : Acceleration of production : more than ten years	IMPORTANCE FOR THE COMMUNITY : Elimination of bottlenecks	APPRECIATION OF THE TECHNICAL RISKS : Great	APPRECIATION OF THE TECHNICAL RISKS : Average	APPRECIATION OF THE TECHNICAL RISKS : Small	APPRECIATION OF THE SITUATION : Technical : Insufficient development and/or existing factors	APPRECIATION OF THE SITUATION : Economic : Answer and/or export of possible applications : to the Community	APPRECIATION OF THE SITUATION : Economic : Answer and/or export of possible applications : to the world	DEGREE OF INNOVATION in relation to the state of existing technology : Approaching to the state of the art	DEGREE OF INNOVATION : Improvement by innovation	DEGREE OF INNOVATION : Complete innovation	DEGREE OF INNOVATION : Risks of duplication of : existing techniques	DEGREE OF INNOVATION : Risks of duplication of : techniques under development	POSSIBILITY OF CLASSIFICATION WITH SIMILAR PROJECTS :	JUSTIFICATION OF YEARS ENVISAGED : Relation between means envisaged and foreseeable results : Suitable	JUSTIFICATION OF YEARS ENVISAGED : Relation between means envisaged and foreseeable results : Not justifiable	OTHER OBSERVATIONS	CONCLUSIONS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
07.04	Corrosion control of offshore structures C.B OFFSHORE LTD	3	1,820,000	yes	yes	m	m	-	-	x	-	-	-	-	-	-	x	-	x	-	x	all platforms	all platforms	-	x	-	-	-	-	x	-	Applicable to all submerged metal structures. The project foresees developing techniques based on known principle	Corrosion is particularly severe in sea water. Its prevention by chemical covering methods tends to increase platform maintenance costs, without guaranteeing the working life of the installation. Cathodic protection is permanent and costs are low. Anterieure to production operations. Proposition: support to 25%
07.05	Development of submersibles and their supply boats BRUSTAD-PHYSIK	4	3,850,000	yes	yes	m	m	-	-	x	-	-	-	-	-	-	x	-	x	-	x	more than 10 submersibles	more than 60 submersibles	-	-	-	-	-	07.01 07.03 07.07 to 07.09 08.01 VIII 74.13A	x	-	Innovation is to the modular system for the 5 submersibles and multihull system for the ship	The modular system permits the conception of submersibles especially adapted to particular tasks. (Head modules for observation - control module with tools - propulsion modules). Because of the combination of a certain number of modules opportunities for submersibles, first owned, then also rented may perhaps be increased. The multihull formula for the service ship enables its operation in very high seas. Directly related to major activities. Proposition: support to 25%
07.07	A submerged air chamber machine COLEMAND	3.	1,820,000	small	yes	m	m	-	x	-	-	-	-	-	-	-	x	-	-	x	x	-	-	x	-	-	-	-	07.05 07.06 07.08 07.02 08.01 09.01 VIII 74.13A	-	x	Perfecting prototypes from existing technology for making conventional operations. The duration of the work is too great.	The objective of the project is the production of autonomous machinery for submerged structures. By conventional methods (piloting, sounding, etc.). This machinery manipulated by divers, has very limited possibilities compared with submersibles. Marginally technical Proposition: not to be supported
07.08	A submerged vehicle tool system VIII TECHNOLOGY LTD	4	1,280,000	yes	yes	m	m	-	-	x	-	-	-	-	-	-	x	x	-	-	-	one platforms and pipes	-	-	x	-	-	-	07.05 07.06 08.01 08.01 VIII 74.13A	x	-	Perfecting apparatus, telecommanded from distance, for submersibles permitting 20 diverse operations both of inspection and mechanical nature	These techniques are essential to make operational present submersibles or future generations either manned or telecommanded. Directly connected with major activities. Proposition: support to 25%
07.09	Subsea viewing and visualisation system FERRANTI LTD	3	637,000	yes	yes	m	m	-	x	-	-	-	-	-	-	-	x	x	-	-	x	to all platforms and submersibles	-	-	x	x	-	-	07.05 07.07 07.08 08.01 09.01 VIII 74.13A	x	-	System enable on all submersibles, platforms and other submerged structures as well as pipe laying barges	Inspection by television, either conventional or ultra sonic, has limits of distance and precision of information. A receiver working by laser can receive and transmit underwater images at more than 150 m with considerably more clarity than a conventional TV. (identification of machinery and sea states). Directly related to major activities. Proposition: support to 25%
08.01	Mobile diving system in conjunction with dynamic positioning ECA MARIA	2	1,364,000	yes	yes	m	m	-	-	x	-	-	-	-	-	-	x	x	-	-	x	to all diving operations	-	-	x	-	-	-	07.05 07.07 07.08 08.01 VIII 74.13A	x	-	Applicable to all diving operations. Because of 4 innovations, the project permits the increase of the divers field of work	The device foresees the increased security of divers by means of a bell system for diving and surfacing. Its object is then to increase operational efficiency. It may transport and work at 300 m water depth. Directly connected with major activities. Proposition: support to 25%

ANNEX

APPRECIATION OF TECHNOLOGICAL DEVELOPMENT PROJECTS UNDER THE CONDITIONS OF REGULATION No 2256/72

ELAM 1975

AREA OF TECHNOLOGICAL DEVELOPMENT : 08: PIPE AND CABLE LAYING 10: TRANSPORT BY PIPELINE AND HANDLING

No	Name of the project and responsible person	Duration (years)	Investment or expenses envisaged during the period 1975/1977 in UC	ACCEPTABILITY : Does the project have a technological development aspect ?	ACCEPTABILITY : Is the natural or legal person who is responsible for the project comprised within the definition of Article 3 of regulation 2256/72	CAPACITIES OF THOSE RESPONSIBLE : Financial	CAPACITIES OF THOSE RESPONSIBLE : Technical	ESSENTIAL MEASURE : Delay in the execution of the work if support is not granted : Less than one year	ESSENTIAL MEASURE : Delay in the execution of the work if support is not granted : From one to five years	ESSENTIAL MEASURE : Delay in the execution of the work if support is not granted : More than five years	ESSENTIAL MEASURE : Delay in the execution of the work if support is not granted : Project abandoned	IMPORTANCE FOR THE COMMUNITY : Additional production to : 1985 oil/gas in t.o.e.	IMPORTANCE FOR THE COMMUNITY : Additional production to : 1985 oil/gas in t.o.e.	IMPORTANCE FOR THE COMMUNITY : Acceleration of production : Less than five years	IMPORTANCE FOR THE COMMUNITY : Acceleration of production : Between five and ten years	IMPORTANCE FOR THE COMMUNITY : Acceleration of production : More than ten years	IMPORTANCE FOR THE COMMUNITY : Elimination of bottlenecks	APPRECIATION OF THE TECHNICAL RISKS : Great	APPRECIATION OF THE TECHNICAL RISKS : Average	APPRECIATION OF THE TECHNICAL RISKS : Small	APPRECIATION OF THE SITUATION : Technical : Insufficient equipment and/or existing techniques	APPRECIATION OF THE SITUATION : Temporal : Number and/or extent of possible applications : In the Community	APPRECIATION OF THE SITUATION : Temporal : Number and/or extent of possible applications : In the world	EFFECT OF INNOVATION in relation to the state of existing technology : Corresponding to the state of the art	EFFECT OF INNOVATION in relation to the state of existing technology : Improvement by stages	EFFECT OF INNOVATION in relation to the state of existing technology : An innovation : Substitution of equipment : With other existing techniques	EFFECT OF INNOVATION in relation to the state of existing technology : An innovation : Substitution of equipment : With techniques under development	INDICATION OF CAPITAL TO BE OBTAINED FROM CIVILIAN PROJECTS :	JUSTIFICATION OF FUNDS ENVISAGED : Solution envisaged and foreseeable results : Suitable	JUSTIFICATION OF FUNDS ENVISAGED : Solution envisaged and foreseeable results : Not suitable	OTHER OBSERVATIONS	CONCLUSIONS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
08.01	Execution of field tests and extension of working capabilities of remote controlled submersible vehicle "SEA ROVER" **TECHNIP**	4	10,563,000	yes	yes	n	n	-	-	x	-	-	-	-	-	-	x	-	x	-	x	10	40	-	x	-	-	-	02,01 to 07,03	-	x	Construction of an experimental vehicle has already reached the "pre sea trials" stage. The object of the proposal is to complete the trials, make the equipment and test a prototype	Specific materials for burying pipes and cables at 150-200 m depth. The risks of building an experimental vehicle have already been taken by the contractor. The length of the work programme does not correspond to the objectives. Concerns pipe and cable laying. Proposition: not to be supported
08.04	Pipe laying in deep water **BLOHM & VOSS AG**	1	102,000	yes	yes	n	n	-	-	x	-	-	-	-	-	-	x	-	-	x	-	-	-	-	-	-	-	-	09,11 08,07 10,05	x	-	The project foresees completing by theory and models a study to enable the engineering steps to be reached and then the building of a prototype	The construction of a prototype pipe laying barge has already been discussed between constructors and users, both for the engineering and for the completion. Taking account of the value of the innovation and the interest which there appears to be, the proposer must take all the risks, concerning pipelaying Proposition: not to be supported
08.05	New technology for pipe laying at sea **BOUYGUES**	2	1,748,000	yes	yes	yes	yes	-	-	-	x	-	-	-	-	-	x	x	-	-	x	to all pipe laying operations		-	x	-	-	-	09,04 08,07 12,04	-	-	The invention lies in the stingers in which the suppleness will be the same as the pipes	The two types of stingers studied should permit a reduction in laying time and operation in wave height of 10 m. Important significance in pipe laying techniques. Proposition: support to 25%
08.07	Pipe interior transport machine **COLEBRAND LTD**	3	1,000,000	yes	yes	n	n	-	x	-	-	-	-	-	-	-	x	-	-	x	x	-	-	-	x	-	-	SEAL 15%	08,05 10,05	-	-	There are machines of this type effective at shallow depth for maintenance of pipes. This project foresees a machine for great depths	The accessories of this machine have been developed already by the proposer. There remains the completion of the machine itself. The work programme seems disproportionate to the objectives. Horizontal technique for pipelaying Proposition: not to be supported
10.04	Laying a 12" flexible conduit 15 km long in 350 m of water **COFLEXIP** 1)	3	1,340,000 (1)	yes	yes	n	n	-	x	-	-	-	-	-	-	-	x	-	-	x	x	to all production with and maintain exploration operations		-	x	-	-	-	10,05	x	-	Applicable to all submarine transport over short distance (from mill heads to storage or loading)	The technique has the advantage of pipe laying both simply and rapidly at low cost. The flexible pipes may be recovered and re-used on another site. Repair work is easier than in rigid pipes. The cost of pipes is too high to consider using over long distances. The Community participation is limited to the first year (1,240,000 u.a.) Applicable to transport operations. Proposition: support to 30%
10.05	High pressure flexible hoses for transport and exploitation of underwater hydrocarbons **STANDARD TELEPHONES & CABLES LTD**	3	1,851,000	yes	yes	n	n	-	x	-	-	Gas, oil/coal, for production drilling systems		-	-	-	x	x	x	-	x	Gas, oil/coal, for exploration systems		-	x	-	-	-	Cooperation with COFLEXIP proposed	x	-	Could be applied if successful even under severe North Sea conditions	Development in this new field desirable in order to solve handling and loading problems of oil and gas offshore, even for large diameters Proposition: support to 30%
10.06	LNG loading arm **DAVID BRAIN HOOPER LTD**	3	2,480,000	yes	yes	n	n	-	-	-	-	2-4 oil	1-2 oil	-	-	-	x	x	-	-	x	12+	30+	-	-	x	-	-	Cooperation with companies manufacturing offshore structures is envisaged to allow joint development of liquefaction and loading	x	-	-	The success of this project will provide the vital link in the offshore liquefaction of gas. With no loading system there is no point in liquefaction and gas from many small fields, especially associated gas in northern North Sea will have to be flared. The project is therefore in the forefront among those that will actually increase available energy supplies to the Community. Propositions: support to 40%

(1) Reduced amount proposed by the Commission (10,455,000 - 10,295,000)

ANNEX

MAY 1973

APPRECIATION OF TECHNOLOGICAL DEVELOPMENT PROJECTS UNDER THE CONDITIONS OF REGULATION No 2256/72

AREA OF TECHNOLOGICAL DEVELOPMENT : 11: MARINE TRANSPORTATION 12: GAS TECHNOLOGY

No	Name of the project and responsible person	Duration (years)	Investment or expenses envisaged during the period 1975/1977 in MC	ACCEPTABILITY : Does the project have a technological development aspect?	ACCEPTABILITY : Is the natural or legal person who is responsible for the project considered according to the provisions of Article 3 of regulation 2256/72	CAPACITIES OF THOSE RESPONSIBLE : Financial	CAPACITIES OF THOSE RESPONSIBLE : Technical	ESSENTIAL MEASURE : Delay to the execution of the work if support is not granted : Less than one year	ESSENTIAL MEASURE : Between one and five years	ESSENTIAL MEASURE : More than five years	ESSENTIAL MEASURE : Project abandoned	IMPORTANCE FOR THE COMMUNITY : Additional production to : 1985 mT/ 85 % t.o.e.	IMPORTANCE FOR THE COMMUNITY : Additional production to : 1995 mT/ 85 % t.o.e.	IMPORTANCE FOR THE COMMUNITY : Acceleration of production : Less than five years	IMPORTANCE FOR THE COMMUNITY : Acceleration of production : Between five and ten years	IMPORTANCE FOR THE COMMUNITY : Acceleration of production : More than ten years	IMPORTANCE FOR THE COMMUNITY : Elimination of bottlenecks	APPRECIATION OF THE TECHNICAL RISKS : Great	APPRECIATION OF THE TECHNICAL RISKS : Average	APPRECIATION OF THE TECHNICAL RISKS : Small	APPRECIATION OF THE SITUATION : Technical : Insufficient equipment and/or existing techniques	APPRECIATION OF THE SITUATION : Economic : Number and/or content of possible applications : In the Community	APPRECIATION OF THE SITUATION : Economic : Number and/or content of possible applications : In the world	DEGREE OF INNOVATION in relation to the state of existing technology : Corresponding to the state of the art	DEGREE OF INNOVATION in relation to the state of existing technology : Innovation by stages	DEGREE OF INNOVATION in relation to the state of existing technology : Complete innovation	DEGREE OF INNOVATION in relation to the state of existing technology : Risks of duplication of work : With other existing techniques	DEGREE OF INNOVATION in relation to the state of existing technology : Risks of duplication of work : With techniques under development	POSSIBILITY OF ASSOCIATION WITH SIMILAR PROJECTS :	JUSTIFICATION OF MEANS ENVISAGED : Relation between means envisaged and foreseeable results : Suitable	JUSTIFICATION OF MEANS ENVISAGED : Relation between means envisaged and foreseeable results : Not justifiable	OTHER OBSERVATIONS	CONCLUSIONS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
11.01	Marrie system heavy lift unit HARRIS & PARTNERS	2	1,000,000	yes	yes	x	x	-	x	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-	-	-	-	-	-	In offshore technology, the system is especially applicable to platform construction, engineering study.	In transporting weights of 25,000 t instead of 2,000 t, as normal, this system can place the bridge of a platform in one operation. Construction time for platforms would be reduced. Assistance to production and exploitation operations. Proposition: not to be supported
11.02	Electrostatic Hazards in oil tankers SHELL-EXLOR	4	625,000	small	yes	x	x	-	-	x	-	-	-	-	-	-	-	-	x	-	-	-	-	x	-	-	-	-	-	-	x	Applicable mainly to transport by large carrier carriers	The programme contains an important element of basic research. Although the investigation method is important, this proposal deviates from the regulation requirements due to lack of technological development, the length of duration and lack of basic activity. Proposition: not to be supported
11.03	Investigation into safety problems of transport and storage of large quantities of flammable liquids and gaseous hydrocarbons TNO	2	800,000	small	yes	x	x	-	-	x	-	-	-	-	-	-	-	-	-	x	-	-	-	x	-	-	-	-	-	-	x	Related to LNG import programme under study in Holland and environmental protection regulations	The project foresees the study of accident risks in as many discharge cities as possible in Netherlands and proposes prevention methods. Marginal transport project. Proposition: not to be supported
11.04	Underwater examination of tankers BOSCH & VD	3	615,000	yes	yes	x	x	-	x	-	-	-	-	-	-	-	x	-	x	-	x	-	-	-	x	-	-	-	07.04 07.07	-	-	Same system as project (11.01) above but applied to tankers	Project carefully transport Proposition: not to be supported
12.02	Safe storage of hydrocarbons especially LNG GAZ DE FRANCE	2	320,000	small	yes	x	x	-	-	x	-	-	-	-	-	-	-	-	-	x	special problem for Netherlands	-	--	x	x	-	-	-	-	-	x	-	The project is not reachable. It may be of certain interest to the Netherlands from an environmental point of view. Proposition: not to be supported
12.03	Cryogenic pipeline for LNG transportation GTT	2	1,020,000	yes	yes	x	x	-	x	-	-	-	-	-	-	-	-	-	x	-	x	-	-	-	-	x	-	-	-	-	x	-	Cryogenic pipelines are likely to be more costly than alternate gas items of the same capacity However, movements of gas in liquid form may greatly assist the economies of peak shaving and allow diverse use of negative heat. Proposition: support to 25%
12.04	High reliability silent relief valve DEMIG	2	200,000	yes	yes	x	x	x	x	-	-	-	-	x	-	-	?	-	x	-	x	x	x	-	x	-	-	-	-	-	x	-	Valves do exist to cover these needs but they are not silent	The value of this project depends entirely upon the development of attitudes regarding the safety of working environments. If the present noise hazard level is declared unacceptable, the need for silent valves will be absolute if work is to continue, especially offshore. Proposition: not to be supported

ANNEX

APPRECIATION OF TECHNOLOGICAL DEVELOPMENT PROJECTS UNDER THE CONDITIONS OF REGULATION No 2616/71

MAY 1975

AREA OF TECHNOLOGICAL DEVELOPMENT : 13: POWER GENERATION AND DISTRIBUTION OFFSHORE 14: STORAGE

No	Name of the project and responsible person	Duration (years)	Investment or expenditure envisaged during the period 1975/1977 in u.a.	ACCEPTABILITY : Does the project have a technological development aspect?	ACCEPTABILITY : Is the natural or legal person who is responsible for the project consulted according to the provisions of Article 3 of regulation 2616/71	CAPACITIES OF THOSE RESPONSIBLE : Financial	CAPACITIES OF THOSE RESPONSIBLE : Technical	ESSENTIAL MEASURE : Delay in the execution of the work if support is not granted : Less than one year	ESSENTIAL MEASURE : Delay in the execution of the work if support is not granted : 1 to 2 years	ESSENTIAL MEASURE : Delay in the execution of the work if support is not granted : More than five years	ESSENTIAL MEASURE : Delay in the execution of the work if support is not granted : Project abandoned	IMPORTANCE FOR THE COMMUNITY : Additional production to : 1985 oil/gas in t.o.e.	IMPORTANCE FOR THE COMMUNITY : Additional production to : 1985 oil/gas in t.o.e.	IMPORTANCE FOR THE COMMUNITY : Acceleration of production : Less than five years	IMPORTANCE FOR THE COMMUNITY : Acceleration of production : Between five and ten years	IMPORTANCE FOR THE COMMUNITY : Acceleration of production : More than ten years	IMPORTANCE FOR THE COMMUNITY : Elimination of bottlenecks	APPRECIATION OF THE TECHNICAL RISKS : Great	APPRECIATION OF THE TECHNICAL RISKS : Average	APPRECIATION OF THE TECHNICAL RISKS : Small	APPRECIATION OF THE SITUATION : Technical : Insufficient equipment and/or existing techniques	APPRECIATION OF THE SITUATION : Economic : Number and/or extent of possible applications : In the Community	APPRECIATION OF THE SITUATION : Economic : Number and/or extent of possible applications : In the world	LEVEL OF INNOVATION in relation to the state of existing technology : corresponding to the state of the art	LEVEL OF INNOVATION in relation to the state of existing technology : improvement in steps	LEVEL OF INNOVATION in relation to the state of existing technology : innovation : with other existing techniques	LEVEL OF INNOVATION in relation to the state of existing technology : innovation : with techniques under development	POSSIBILITY OF CARRYING OUT THE PROJECT IN INDUSTRIAL PRODUCTS :	JUSTIFICATION OF MEANS ENVISAGED : Solution between means envisaged and foreseeable results : Suitable	JUSTIFICATION OF MEANS ENVISAGED : Solution between means envisaged and foreseeable results : Not justifiable	OTHER OBSERVATIONS	CONCLUSIONS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
13.04	Development of autonomous energy sources under water **ALSTHOM**	3	2,441,000	yes	yes	x	x	-	-	x	-	-	-	-	-	-	x	-	-	x	x	In all seaside countries and on islands		-	x	-	-	-	All submarine autonomous vehicles and diving bells	x	-	Useful for operations where rapid action by an autonomous, manned machine is essential	Machines powered by cable are limited both in manoeuvrability and range. They cannot be used in rough seas. Present automated submarines have power up to 15 hp which limits their functioning during very brief periods. The building of a 100 hp power source would allow observation and action (cutting, welding, etc.) for several consecutive hours. This will become more and more necessary as depths increase. Concerns major operations and technological development. Proposition: support to 25%
14.01	Cavern storage **BP TRADING CO**	1	1,144,000	yes	yes	x	x	x	-	-	-	-	-	-	-	-	-	x	-	-	-	To all nations	Neither	-	x	-	-	-	-	x	-	Excavation of fragile structures and large capacity original pumping system. Technique applicable to several Community sites	Artificial cavity technique is less costly than surface reservoirs. Not in the case of fragile rocks, a large capacity pumping system must be used, which does not endanger the rock walls. Directly connected to storage. Proposition: support to 25%
14.02	Mooring system for the placing of concrete offshore structures **SEA TANK CO**	2	150,000	small	yes	x	x	-	x	-	-	-	-	-	-	-	x	-	-	x	x	-	-	x	-	-	-	-	16.03	X	-	Applicable to present platform technology and to underground reservoirs where the soil is of poor quality. Feasibility study	The commercial exploitation prospects are sufficiently important for the company to bear the costs of feasibility. Unlawful for production and storage operations Proposition: not to be supported
14.03	Underwater storage and associated structures **TECHNIP**	3	2,000,000 (1)	yes	yes	x	x	-	-	x	-	-	-	-	-	-	x	x	-	-	-	All maritime countries	Land	-	x	-	-	-	12.01 to 12.05 16.02	x	-	Innovation concerns type of reservoir, method of construction, materials used as well as the interface between the platform and the reservoir	Advantages of this technique are: construction of reservoirs in sheltered area sites, self-deploying structures with reservoirs as bases, which permit more and less delicate siting, reservoir resistance permits the avoidance of ballast and gives a protection against pollution risks,: in certain conditions on a separate mooring enables LNG t. be stored. Directly connected with present and future production and storage technology. Proposition: support to 25%
14.05	Construction of semi-buried reservoirs of large capacity **S.I.F. BP**	3	4,501,000	none	yes	x	x	-	x	-	-	-	-	-	-	-	-	-	-	x	x	-	-	-	x	-	-	-	-	x	-	This concept of reservoirs permits equal external and internal pressures. This technique is applicable to sandy terrain (North Sea coasts). The system uses a large capacity pumping system and costs are smaller than surface reservoirs	The project does not have a technological development aspect. It uses known techniques and large-scale utilization of materials. Project does not appear to have any bearing on Community supply. The installation will be used solely by the promoter but its development may spur the construction of this type of reservoir on several sandy North Sea sites. Useful for security storage such as storage bound to production at sea. Proposition: not to be supported
14.06	Development of an offshore production tank **A.G. WESER**	4	320,000	yes	yes	x	x	-	x	-	-	-	-	-	-	-	x	-	-	x	-	-	-	x	-	-	-	-	-	x	-	Hull or floating storage reservoir with an anchoring system with small draught	Feasibility study for realization of loading and unloading equipment for all weathers. This system is applicable to all badly protected terminals and not specifically to offshore and is interesting to a large extent. Marginally transport. Proposition: not to be supported
14.07	System for storage tank examination **WERNER JO**	3	815,000	yes	yes	x	x	-	x	-	-	-	-	-	-	-	x	-	x	-	x	-	-	-	x	-	-	-	07.04 07.07	-	-	Automatic inspection system by ultra sonics for reservoirs and pipes (exterior inspection)	System to control behaviour of materials, immersed or buried and notably to find the origin of fissures. Project to exceptionally storage and transport. Proposition: not to be supported

(1) Reduced amount proposed by the Commission (4,000,000 - 2,000,000)

ANNEX

APPRECIATION OF TECHNOLOGICAL DEVELOPMENT PROJECTS UNDER THE CONDITIONS OF REGULATION No 2506/72

YEAR 1975

AREA OF TECHNOLOGICAL DEVELOPMENT : 15a OTHER APPLICATIONS

No	Name of the project and responsible person	Duration (years)	Investments or expenses envisaged during the period 1975/1977 in MC	ACCEPTABILITY : Does the project have a technological development aspect ?	ACCEPTABILITY : Is the natural or legal person who is responsible for the project considered according to the provisions of Article 3 of regulation 2506/72.	CAPACITIES OF THOSE RESPONSIBLE : Financial	CAPACITIES OF THOSE RESPONSIBLE : Technical	ESSENTIAL FEASIBLE : Delay in the execution of the work in support is not granted : Less than one year	ESSENTIAL FEASIBLE : Delay in the execution of the work in support is not granted : Between one and five years	ESSENTIAL FEASIBLE : Delay in the execution of the work in support is not granted : More than five years	ESSENTIAL FEASIBLE : Delay in the execution of the work in support is not granted : Project abandoned	IMPORTANCE FOR THE COMMUNITY : Additional production to : 1985 in M u.c.	IMPORTANCE FOR THE COMMUNITY : Additional production to : 1985 in M t.o.e.	IMPORTANCE FOR THE COMMUNITY : Acceleration of production : Less than five years	IMPORTANCE FOR THE COMMUNITY : Acceleration of production : More than five years	IMPORTANCE FOR THE COMMUNITY : Utilization of bottlenecks	APPRECIATION OF THE TECHNICAL RISKS : Great	APPRECIATION OF THE TECHNICAL RISKS : Average	APPRECIATION OF THE TECHNICAL RISKS : Small	APPRECIATION OF THE SITUATION : Technical : Insufficient equipment and/or existing technicians	APPRECIATION OF THE SITUATION : Economic : Market and/or cost of possible applications : In the Community	APPRECIATION OF THE SITUATION : Economic : Market and/or cost of possible applications : In the world	DEGREE OF INNOVATION in relation to the state of existing technology : Corresponding to the state of the art	DEGREE OF INNOVATION in relation to the state of existing technology : Appreciably in advance of the state of the art	DEGREE OF INNOVATION in relation to the state of existing technology : Constituting a breakthrough	DEGREE OF INNOVATION in relation to the state of existing technology : Risks of duplication of effort : With other existing technologies	DEGREE OF INNOVATION in relation to the state of existing technology : Risks of duplication of effort : With technologies under development	POSSIBILITY OF COMPARISON WITH SIMILAR PROJECTS :	JUSTIFICATION OF MEANS ENVISAGED : Relation between means envisaged and foreseeable results : Suitable	JUSTIFICATION OF MEANS ENVISAGED : Relation between means envisaged and foreseeable results : Not justifiable	OTHER OBSERVATIONS	CONCLUSIONS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
15.01	Hydrocarbon production by anaerobic digestion of animal wastes LEACH ERRIN CORP SOCIETY	2	150,000	no	-	o	o	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Feasibility study on calculation of profitability and adaption of process techniques	Project unconnected with oil or gas technology. Installations exist already either on farm or pilot projects. The eventual generalization of the project depends upon the organization of the collection procedure and profit incentive. This project is more proper to the agricultural field. Proposition: not to be supported
15.02	Technological assessment of North Sea development TNO	2	97,000	no	yes	o	o	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Limited to collection of basic information	Project not reasonable Proposition: not to be supported

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