COMMISSION OF THE EUROPEAN COMMUNITIES

COM(75) 424 final
Brussels, 25 July 1975

PROPOSAL OF A
COUNCIL DECISION

on the grant of measures of support for
Community projects in the hydrocarbons sector

(submitted to the Council by the Commission)

REASONING

1. The Council of the European Communities adopted on 9 November 1973 Regulation (EEC) No 3056/73[1] on the support of Community projects in the hydrocarbons sector. This support is meant to encourage technological development activities directly connected with exploration, exploitation, storage or transport of hydrocarbons which tend by their nature to improve the security of the Communities' energy supply.

2. In applying this Regulation, the Council, at its session on 17 December 1974, granted to 21 projects, which had been submitted to the Commission in response to the invitation of 28 February 1974 and which had been made the object of a proposal from the Commission to the Council on 26 August 1974, measures of support totalling 42,503,159 u.a. during the period 1974-1976.

3. In carrying out the proposals of the said Regulation 3056, the Commission published in Official Journal No C 159 of 21 December 1974, an invitation to interested parties to submit before 28 February 1975, requests for support to be considered in the 1975 budget.

4. At the deadline fixed by this invitation, 63 Community companies had submitted to the Commission requests for support for the implementation of 120 technological development projects in the hydrocarbons field. Because of the withdrawal by certain companies and the amalgamation of certain projects, requests for support now before the Commission and

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[1] OJ No L 312/1 of 13 November 1973

which are the object of this present proposal, number 86 and involve investment and expenditure of 247,267,989 u.a. during the years 1975-1977.

5. For the implementation of these projects, the companies involved request from the Community measures of support in the form of subsidies repayable if the results are commercially exploitable, to a maximum amount.

6. The Commission, charged with the examination of the requests for support, has subjected the projects concerned to a preliminary examination to ascertain their receivability under the terms of Regulation No 3056. It has been established that the projects:

   - are concerned with technological development activities directly connected to exploration, exploitation, storage or transport of hydrocarbons;
   - are being undertaken by a natural or legal person constituted in accordance with the laws in force in the Member States of the Community.

7. The Commission then sent to the Member States for consultation, dossiers for each project and has taken note of any contingent remarks or observations which have been sent.

8. Taking into account this first information and on the basis of information furnished by the companies requesting support, the Commission proceded with an appreciation of each project and established the measures of support capable of beinggranted by the Council.

9. The criteria for the appreciation taken by the Commission, those which appear in the provisions of Regulation No 3056 are as follows:

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- the financial intervention of the Community is indispensible for the implementation of the project;

- the improvement of the Community's security of supply;

- the nature and extent of risks involved in the project;

- the necessity of proceeding with the project, taking into account the existing technical situation;

- the number or extent of possible applications of the project results;

- the degree of innovation in the project compared with the state of existing technology;

- risks of duplication of effort with other projects or existing techniques or those being developed;

- possibility of concertation with similar projects;

- comparison between envisaged costs and foreseeable success;

- technical and financial capacity of those responsible for the project.

10. Because of the large number of projects presented in 1975 and the limited funds at the Community's disposal, the Commission judged it necessary to apply these criteria very strictly.

11. The Commission has, in particular, decided not to propose measures of support for projects which:

- foresee simply the completion of preliminary studies without involving technical risks in their execution;

- involve technological development activities which are not directly connected with exploration, exploitation, storage or transport of hydrocarbons;

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- concern the development of equipment which, although involving technological progress, offer very limited prospects for their utilization in the hydrocarbons sector;
- follow the development of existing technology without, however, arriving at solutions which take into account future requirements. This criterion has especially been applied in the elimination of projects concerning new platforms of the "gravity" type, which will very probably be superceded in the near future[1] by a new generation of floating marine structures or semi-submersibles. The latter types are the object of the proposal for support by the Commission.

12. The Commission has also made reductions, sometimes large, in the amounts of investment proposed for the Community support on each occasion when the envisaged costs appear to be disproportionate to the stated objectives or when the implementation of a part of the project does not appear to conform to the meaning of Regulation No 3056.

13. Finally, while recognising that the projects, "Pilot production system 100-200 meters" of GERTH and "Tension leg platforms" of BLOHM & VOSS satisfy the requirements of Regulation No 3056 and that the conditions for granting support exist, the Commission has decided not to take these projects into consideration in the 1975 budgetary exercise. The Commission reserves the right to re-examine these projects within the framework of the 1976 budgetary exercise.

14. Consequently, the number of projects eligible to benefit from Community support, at the end of this exercise, is 38, and the investments involved amount to 117,852,142 u.a. for the period 1975-1977.

15. On these investments the Commission proposes a rate of support varying between 25% and 40%.

16. To determine the extent of the support to be allocated to each project the Commission has followed the following principles:

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[1] In the case of exploitation of fields in very deep waters.

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- Community support may only form a minor part of the f[illegible] projects;

- the amount of support to be allocated is, as a general rule, expressed in accordance with the chances of success of the projects and their importance for the Community;

- the projects which by the exploitation of their results will mean an increase in resources and/or an acceleration in the valorization of hydrocarbon resources in the Community, shall have the benefit of the maximum rate of support;

- transport and storage projects shall, in principal, have the benefit of medium support;

- projects which concern the supplying of services, shall have the benefit of minimal support. In cases where the implementation of these projects means the elimination of major bottlenecks, they may have the benefit of a higher rate of support.

17. In applying these principles and taking account of the examination and appreciation of the projects, the support the Commission proposes to grant during the period 1975-1977 to the remaining 38 projects is 44,683,758 u.a.

18. These measures of support are granted in the form of subsidies repayable if the results obtained are commercially exploited.

19. The Commission does not wish that the advantages granted by the Community to the promoters of the projects should modify conditions which are at present in force in the Community market, in a manner incompatible with the provisions of the Treaty in this field.

20. Where companies who benefit from Community support are pursuing similar objectives, the Commission shall organize special meetings with a view to reaching reasonable cooperation.

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budgetary credits foreseen by the Commission for Community hydrocarbons sector for the period 1975-1977 is 115 million u.a. in payment credits[1]. Section III - Commission - of the General Community Budget for 1975 provides in Article 321 a credit of 25 million u.a. (plus 25 million u.a. carried over from 1974) for the support of Community projects in the hydrocarbons section. The total support for the 38 projects which remain is, consequently, to be covered by credits in the General Community Budget (see financial memorandum attached).

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The Council is asked to adopt the following decision:

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[1] 115 m u.a. = 25 m u.a. in 1975 + 40 m u.a. in 1976 + 50 m u.a. in 1977. Moreover, the Commission proposes, in the context of the 1976 provisional budget to have recourse to the creation of committed credits.

PROPOSAL OF A COUNCIL DECISION

on the grant of measures of support for Community projects in the hydrocarbons sector

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community;

Having regard to Regulation (EEC) No 3056/73 of the Council of 9 November 1973 on the support of Community projects in the hydrocarbons sector[1] and in particular Article 6 paragraph 2 thereof;

Having regard to the proposal from the Commission,

Whereas the aforesaid Regulation (EEC) No 3056/73 provides for the grant of measures of support for the implementation of technological development projects which are of fundamental importance in ensuring the Community's supply of hydrocarbons;

Whereas it is essential to proceed with the implementation of the projects which are particularly capable of accelerating the development of resources and improving the storage and transport conditions for hydrocarbons in the Community and the completion of this could not be achieved or would have to be postponed without Community support,

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(1) OJ No L 312, 13.11.1973, p.1

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DECIDES :

Article 1

For the period 1975/1977, measures of support are granted for the Community projects shown in the Annex in the form of subsidies repayable if the results prove commercially exploitable, up to a maximum amount of 44,683,758 units of account.

Article 2

The support measures referred to in Article 1 shall be granted for each of the projects, on the basis of the percentages, shown in the Annex, of the actual cost, verified and accepted by the Commission up to the maximum amounts also specified in the Annex.

Article 3

The Commission will negotiate and conclude with the persons concerned the contracts necessary for the implementation of this decision.

The Commission will administer these contracts.

Done at Brussels,

For the Council

The President

ANNEXE

SOUTIEN PROPOSE AUX PROJETS COMMUNAUTAIRES DANS LE SECTEUR DES HYDROCARBURES (en U.C.)

PROPOSED SUPPORT OF COMMUNITY PROJECTS IN THE HYDROCARBONS SECTOR (in U.A.)

VORSCHLAG ZUR UNTERSTUTZUNG GEMEINSCHAFTLICHER VORHABEN IM BEREICH DER KOHLENWASSERSTOFFE (in R.E.)

Code / Code / Kode	No / Nr / Nr	Définition du projet et responsable / Definition of project and promotor / Definition der Projekte und Verantwortlicher	Investissements prévus au cours de la période 1975-1977 / Foreseeable investment for the period 1975-1977 / Vorgesehene Investitionen in den Jahren 1975-1977				Taux de soutien / Rate of support / Unterstützungssatz	Montant correspondant / Corresponding amount / Beihilfe/Betrag
			1975	1976	1977	Total	%	Soutien
01		Activité géophysique et prospection Geophysics and prospecting Geophysikalische Aktivitäten und Prospektion						
01	01	GERTH Methodology for detailed seismic study of oil and gasfields.	1,134,277	900,220	900,220	2,934,717	-	-
01	02	GERTH Study of problems related to seismic study at sea.	1,791,438	1,512,369	585,143	3,888,950	40 %	1,555,580
01	03	AGIP Research into methodologies and geophysical techniques related to complex geological situations.	160,000	3,520,000	1,600,000	5,280,000	40 %	2,112,000
01	04	GEOPHYSIQUE/SERCEL Geotechnical studies of sea bottom and sub-bottom inddeep water conditions.	108,100	88,900	-	197,000	40 %	78,800

			1975	1976	1977	Total	%	Unterstützung Support Soutien
01	05	GERTH						
		Study concerning the preliminary reconnaissance of deep waters	450,110	450,110	-	900,220	-	
01	06	NATIONAL SCIENCE COUNCIL						
		Development of a shipboard optical seismic data processor.	97,270	26,210	24,840	148,320		
			3,741,195	6,497,809	3,110,203	13,349,207		3,746,380

			1975	1976	1977	Total	%	Unterstützung Support Soutien
02		Forage Drilling Bohren						
02	02	BP TRADING Co.						
		Design and construction of novel components of a dynamically positioned drillship.	5,050,000	6,045,000	2,100,000	13,195,000	40 % on 9,035,000	3,614,000
02	04	BP TRADING Co.						
		Development of marine drilling risers.	422,000	115,000	-	537,000	-	-
02	06	BEN ODECO LTD.						
		Design and development of new drilling equipment for a dynamically positioned drillship.	3,156,000	552,000	-	3,708,000	40 %	1,483,200
02	08	SCOTT LITHGOW LTD						
		Development of drilling equipment and general facilities for a dynamically positioned drillship.	297,850	-	-	297,850	-	-
02	05	BP TRADING Co.						
		Novel polymer system for oil based drilling muds.	98,400	244,800	-	343,200	-	-
02	07	REDHURST ENG. Co. LTD.						
		Development of a new concept for exploratory drilling.	216,000	480,000	96,000	792,000	-	-

			1975	1976	1977	Total	%	Unterstützung Support Soutien
02	09	BURO E. KREBS Surface readings of horehole inclination and directional drilling.	109,290	251,366	442,622	803,278	-	-
02	10	CLEVELAND BRIDGE Co. LTD. Production of drilling modules.	1.920,000	360,000	-	2,280,000	-	-
			11,269,540	8,048,166	2,638,622	21,956,328	-	5,097,200

			1975	1976	1977	Total	%	Unterstützung Support Soutien
03		Platformes, ancrage et pieux Platforms, anchoring and piles Platformen, Verankerung, Gründungen für Bauten am Meeresboden						
03	01	MONK FABER Co. The "Monk Faber" Platform-spar.	216,000	24,000	-	240,000	-	-
03	04	T.N.O. Safety of offshore structures.	41,436	82,873	-	124,309	-	-
03	05	T.N.O. Calculation and measurement of the motions of an anchored floating drilling platform.	69,061	138,121	-	207,182	-	-
03	06	CARRON Co. Development of a 300 h.p. hydrostatic motor unit.	120,000	480,000	360,000	960,000	-	-
03	07	BOUYGUES Study of exploitation and storage platforms in deep water, (650 m.)	100,000	1,500,000	-	1,600,000	-	-
03	08	E.M.H. Articulated platform.	540,131	651,760	-	1,191,891	-	-

			1975	1976	1977	Total	%	Unterstützung / Support / Soutien
03	09	INTERCONSULT Offshore structures suitable for drilling and production platforms and single point mooring towers.	659,200	556,800	-	1,216,000	-	-
03	11	STRABAG-BAU A.G. Research into a transferable concrete production platform.	377,049	509,563	228,142	1,114,754	-	-
03	12	WHARTON ENG. Co. LTD. Development of an automated mooring system.	1,080,000	720,000	-	1,800,000	35 %	630,000
03	13	TECNOMARE Floating platform for the exploitation of oil and gas fields in deep waters.	1,040,000	1,376,000	-	2,416,000	40 %	966,400
03	14	BP TRADING Co. Study and development of the design construction and installation of fixed offshore platforms.	4,538,000	1,784,000	208,000	6,530,000	-	-
03	20	VICKERS LTD. Intermediate and deep sea production platform.	1,440,000	12,240,000	14,400,000	28.080,000	40 % on 4,423,000	1,769,200
03	21	TAYLOR WOODROW LTD. Research and development project for production of oil and gas from deep waters.	600,000	2,520,000	3,552,000	6,672,000	40,%	2,668,800

			1975	1976	1977	Total	%	Unterstützung Support Soutien
03	22	CALEDONIAN PLATFORMS LTD. Oil production platform.	528,000	-	-	528,000	-	-
03.	24	BALAENA STRUCTURES LTD. Proposal for North Sea production platform.	319,200	-		319,200	-	-
03	25	BLOHM & VOSS A.G. Tension leg platform.	63,388	31,694	-	95,082	(1976) *)	-
03	26	CFEM-SCOTT LITHGOW GBS platform project.	350,000	400,000	-	750,000	-	-
03	27	BP TRADING Co. Novel offshore production system:	832,000	7,268,000	3,540,000	11,640,000	40 %	4,656,000
03	28	PREUSSAG A.G. Floating natural gas liquifaction plant.	108,205	724,811	596,354	1,429,370	40 %	571,748
03	29	SALZGITTER A.G. Production of LNG and methanol platforms.	418,280	930,350	286,070	1,634,700	40 %	653,880
03	32	DEUTSCHE BABCOCK & WILCOX A.G. Mobile platform for power generation based on the gas production of small oil fields.	1,000,000	1,600,000	200,000	2,800,000	40 %	1,120,000

*) Reporté à l'année 1976.
Reported to the year 1976.
Uebertragung auf 1976.

			1975	1976	1977	Total	%	Untersützung Support Soutien
03	02	REID CARTER & WILSON Heavy drop hammer.	84,000	648,000		732,000	-	-
03.	10	SOLMARINE A new grouping process for inserting pile.	1,046,900	-	-	1,046,900	-	-
03.	23	KOHRING-MENCK Underwater pile hammer (300 m)	346,994	307,377	86,066	740,437	-	4
03	31	FREEMAN FOX AND PARTNERS Offshore production system "Exboy" project.	360,000	1,080,000	360,000	1,800,000	40 %	720,000
			16,277,844	35,573,349	23,816,632	75,667,825	-	13,756,028

			1976	1976	1977	Total		Unterstützung / Support / Soutien
04		Production						
04	01	FRANLAB Elaboration of a reservoir model by the finite element method.	54,013	245,688	45,011	344,712	-	-
04	04	GERTH Production offshore in Arctic Zones	917,000	2,100,000	2,690,000	5,707,000	40 %	2,282,800
04	08	BP TRADING Co. Separation processes.	270,000	485,000	375,000	1,130,000	40 %	452,000
04	10	BERTIN Centrifugal separation of crude oil/water.	333,082	180,044	-	513,136	-	-
04	11	GERTH Adaptation of drilling semi-submersibles for divers missions.	90,000	270,000	-	360,000	-	-
04	15	GERTH Production project 100-200m.	100,000	4,900,000	22,500,000	27,500,000	(1976) *)	-
			1,764,095	8,180,732	25,610,011	35,554,838		2,734,800

*) reporté à l'année 1976.
reported to the year 1976.
Übertragung auf 1976.

			1975	1976	1977	Total	%	Unterstützung Support Soutien
05		Récupération secondaire incl. schistes. Secondary recovery including shales. Sekundäre Gewinnung, einschliesslich Ölschiefer.						
05	01	BP TRADING Co. Improved crude oil production and treatment.	216,000	636,000	640,800	1,492,000	40 %	596,800
05	02	GERTH Pilot project of microemulsion and polymer floods in the Chateaurenard reservoir.	2,840,000	600,000	60,000	3,500,000	40 %	1,400,000
05	03	WINTERSHALL Development of heavy oil production from tar sands in Federal German Republic.	510,000	438,000	437,000	1,385,000	40 %	554,000
05	04	SHELL INTERNATIONAL Hydrocarbons recovery from chalk deposits.	665,745	4,093,923	6,906,077	11,665,745	40 %	4,666,298
05	05	GERTH Exploitation of oil shale deposits.	910,000	-	-	910,000	40 % on 353,000	141,200
			5,141,745	5,767,923	8,043,877	18,953,545		7,358,298

			1975	1976	1977	Total	%	Unterstützung Support Soutien
06		Influence de l'environnement sur l'équipement [illegible] off-shore Environmental influences on oil equipment off-shore Umwelteinflüsse auf off-shore Ölanlagen						
06	02	CROUZET Measure of water movements an their effect on submerged structures.	326,780	465,414		792,194	-	-
06	03	BERTIN Optical system for swell measurements from arial photographs.	288,070	414,102	-	702,172	-	-
06	04	BERTIN Use of EDP techniques for sea state forecasting.	108,026	-	-	108,026		
06	05	BERTIN Swell damper to protect off-shore installations.	270,066	-	-	270,066	30 %	81,020
			992,942	879,516	-	1,872,458		81,020

			1975	1976	1977	Total	%	Unterstützung Support Soutien
07		Navires de service et submersibles Service ships and submersibles Dienstleistungsshiffe und Tauchbote						
07	01	PREUSSAG AG						
		Service package unit for offshore soil investigation.	2,948,087	560,109	-	3,508,196	30 %	1,052,459
07	02	FUGRO CESCO						
		Soil investigation North Sea.	75,967	200,276	-	276,243	30 %	82,873
07	03	TECNOMARE						
		Design and construction of a submarine vehicle for work and inspection operations (Felesub).	1,211,365	2,474,211	4,221,700	7,907,276	35 %	2,767,547
07	04	CJB OFFSHORE LTD.						
		Corrosion control of offshore structures.	120,000	720,000	1,080,000	1,920,000	30 %	576,000
07	05	BRUKER-PHYSIK						
		Development of submersibles and their supply boats.	514,500	1,543,500	1,800,750	3,858,750	35 %	1,350,563
07	06	COLEBRAND LTD.						
		A submerged air chamber machine.	410,784	777,516	611,700	1,800,000	-	-

			1975	1976	1977	Total	%	Unterstützung Support Soutien
08		Plongée Diving Tauchen						
08	01	D.D.G. "HANSA" Mobile diving system in conjunction with dynamic positioning.	916,667	647,541	-	1,564,208	30 %	469,262
			916,667	647,541	-	1,564,208		469,262

			1975	1976	1977	Total	%	Unterstützung Support Soutien
07	08	WINN TECHNOLOGY LTD A submerged vehicle tool system	77,124	594,083	626,531	1,297,738	35 %	454,208
07	09	FERRANTI LTD Subsea viewing and visualisation system.	81,600	225,600	360,000	667,200	25 %	166,800
			5,439,427	7,095,295	8,700,681	21,235,403		6,450,450

			1975	1976	1977	Total	%	Unterstützung Support Soutien
09		Pose de pipes et cables **Pipe and cable laying** Rohr- und Kabelverlegung						
09	01	TECNOMARE Execution of field tests and extension of working capabitities of remote controlled submarine vehicle "TM 102".	3,615,203	3,087,976	3,839,523	10,542,702		-
09	C4	BLOHM & VOSS AG Pipe laying in deep waters;	191,530	-	-	191,530	-	-
09	06	BOUYGUES New technology for pipe laying at sea.	740,000	1,000,000	-	1,740,000	35 %	609,000
09	07	COLEBRAND LTD. Pipe interior transport machine.	200,820	762,528	716,652	1,680,000	-	-
			4,747,553	4,850,504	4,556,175	14,154,232		609,000

			1975	1976	1977	Total	%	Unterstützung Support Soutien
10		Trahsport par pipes et cables Pipe and cable laying Rohr- und Kabelverlegung						
10	04	COFLEXIP Laying a 12" flexible conduit 15 km long in 550 m of water.	4,245,000	11,460,000	3,750,000	19,455,000	35 % on 1,240,000	434,000
10	05	STANDARD TELEPHONES & CABLES LTD. High pressure flexible hoses for transport and exploitation of under-water hydrocarbons.	86,400	1,353,600	211,200	1,651,200	35 %	577,920
10	06	DAVID BROWN VOSPER LTD. LNG loading arm.	124,800	684,600	1,681,200	2,490,000	40 %	996,000
			4,456,200	13,497,600	5,642,400	23,596,200		2,007,920

			1975	1976	1977	Total	%	Unterstützung Support Soutien
11		Transport maritime Marine transportation Seetransport						
11	01	HARRIS & PARTNERS						
		Harris system heavy lift unit.	840,000	206,400		1,046,400	-	-
11	02	UKEEA-CULHAM						
		Electrostatic hazards in oil tankers.	148,800	355,200	295,200	835,200	-	-
11	03	T.N.O.						
		Investigation into safety problems of transport and storage of large quantities of flammable liquids and gassous hydro arbons.	534,254	359,116	-	893,370	-	-
11	04	RONTGEN T.D.						
		Underwater examination of tankers.	255,525	248,619	110,497	614,641	-	-
			1,814,579	1,169,335	405,697	3,389,611		-

			1975	1976	1977	Total	%	Unterstützung Support Soutien
12		Technologie gazière Gas technology Gastechnologie						
12	02	BAM BEGEMANN Safe storage of hydrocarbons especially LNG.	232,044	93,923	-	325,967	-	-
12	03	O.T.P. Cryogenic pipeline for LNG transportation.	657,000	750,000	513,000	1,920,000	30 %	576,000
12	04	BERTIN High reliability silent relief valve.	57,614	230,456	-	288,070	-	-
			946,658	1,074,379	513,000	2,534,037		576,000

			1875	1976	1977	Total	%	Unterstützung Support Soutien
13		Production et distribution d'électricité Power generation and distribution off-shore Stromerzeugnung und Verteilung off-shore						
13	04	ALSTHOM Development of autonomous energy sources under water.	601,000	896,000	944,000	2,441,000	35 %	854,350
			601,000	896,000	944,000	2,441,000		854,350

			1975	1976	1977	Total	%	Unterstützung Support Soutien
14		Stockage Storage Lagerung						
14	01	BP TRADING Co. Cavern Storage.	1,143,500	-	-	1,143,500	30 %	343,050
14	02	SEATANK Co. Mooring system for the placing of concrete offshore structures.	63,000	96,300	-	159,300	-	-
14	03	TRAMCO Underwater storage ad associated structure.	666,000	2,667,000	667,000	4,000,000	30 % on 2,000,000	600,000
14	05	SOCIETE FRANCAISE DES PETROLES BP Construction of semi-enterred reservoirs of great capacities.	180,045	720,176	3,600,880	4,501,101	-	-
14	06	L.G. WESER Development of an offshore production tank.	81,967	109,290	1,136,612	327,869	-	-
14	07	RONTGEN T.D. System for the examination of storage tanks.	255,525	248,619	110,497	614,641	-	-
			2,390,037	3,841,385	4,514,989	10,746,411		943,050

			1975	1976	1977	Total		Unterstützung Support Soutien
15		Autres applications Other applications Übrige Anwendungen						
15	01	LOUGH EGISH COOP SOCIETY Hydrocarbons production by anaerobic digestion of animal wastes.	36,000	120,000		156,000		
15	03	T.N.O. Technological assessment of North Sea development.	48,343	48,343	-	96,686	-	-
			84,343	168,343	-	252,686	-	-
		TOTAL GENERAL GENERAL TOTAL INSGESAMT	60,583,825	98,187,877	88,496,287	247,267,989	-	44,683,758

FINANCIAL MEMORANDUM

1. Financial part concerned : Article 321 (contingently 3210)

2. Title of the budgetary part : "Community Projects in the hydrocarbons sector".

3. Legal basis : Council Regulation (EEC) no 3056/73 of 9 November 1973, (O.J. no L 312 of 13 November 1973) ; Council decision of 17th December 1974 ; Commission proposal for year 1975.

4. Programme description / Personel concerned

4.0.0. Description : Allocation of financial support to companies or research groups in the hydrocarbons sector.

4.0.1.0. Personel concerned : Community companies.

4.0.1.1. Number : 29

4.0.1.2. Geographical location : Community Territory

4.1. Programme objectives

4.1.0. General objectives : Establishment of a common energy policy : realization of conditions which permit long term security of hydrocarbons supplies for the Community. Council decision of 22 May 1973; Council regulation (EEC) no 3056/73 of 9 November 1973; Council resolutions of 14 September 1974; 17 December 1974 and 14th February 1975.

4.1.1. Specific objectives: Encouragement of technological development activities directly connected with exploration, exploitation, storage and transport of hydrocarbons which tend by their nature to decrease the degree of the Communities' exterior dependance in the supply of hydrocarbons.

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4.2. Justification of the programme chosen to attain the objectives

Because of the technical risks and the financial expense inherent in the implementation of the technological development projects, their execution would not be able to be assured or might be delayed without the intervention of Community financial support, with considerable disadvantages for the security of hydrocarbons supplies. No other means of Community intervention could produce the same results.

5. Credits

5.0. Multiannual requirements

	Requirements (in MUC)			
	1975	1976	1977	1978
Regulation in force	25 + 25	40	50	50

5.0.1. First estimation of multiannual payment requirements foreseen in the hypothesis of the creation of committed credits:

	1974	1975	1976	1977	Total
- First group of projects approved by the Council on 17 December 1974	-	25	16	-	41
- Second group of projects which are the subject of the present proposal	-	-	30	14.6	44.6

5.1. Utilization during the exercise in preparation

The utilization of credits in 1976 depends upon the intervention of the Council decision for the new projects and the state of progress of the work on the projects approved in 1974 and 1975.

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5.2. Method of calculating foreseen credits

5.2.0. Method of calculation : Depends upon the contracted amount approved by the Council which fix a ceiling for the support to be allocated to the projects retained.

6. Method of control envisaged

6.0. No control is foreseen by the member countries. The computer service and financial control will make periodic on site controls and follow the implementation of the projects by technical and financial reports which the companies are bound to submit periodically.

6.1. The Commission is bound to present to the Council annually a report on the state of progress of the work on each project and the costs committed for their execution; the Commission must also annually inform the Council and the Assembly on the application of Regulation 3056/73.

6.2. No re-examination of the programme is foreseen by Regulation 3056/73.

7. Total costs of the programme during the whole period envisaged

The support of technological development projects in the hydrocarbons sector is a three yearly programme renewable each year. It concerns a permanent programme the costs of which, for an average year, will be apportionned approximately 35 % to the Commission and 65 % to the companies responsible for the projects.

8. Necessary personel and credits

8.0. Personel necessary exclusively for the execution of the programme

a) Direction of requests for support and negotiation of contracts:

2 exterior consultants

1 official grade A in charge, 3 technicians (grade A),

1 legal counsellor (grade A), 2 assistants (grade B),

2 secretaries (grade C).

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b) Management of contracts

1 official grade A in charge, 1 engineer (grade A),
1 legal counsellor (grade A), 1 accountant (grade B),
1 assistant (grade B), 2 secretaries (grade C).

8.1. Additional personel

2 exterior consultants, 1 engineer, 3 officials (gradeB)
(1 accountant, 2 assistants), 2 secretaries (grade C).

8.2.

9. Programme financing

9.0. Financing by credits inscribed in Chapter 32 of the budget.

9.3. Credits to be inscribed in future budgets

50 MUC per year.

ANNEX

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

YEAR 1975

AREA OF TECHNOLOGICAL DEVELOPMENT : 01: GEOPHYSICAL

No	Name of the project and responsible person	Duration (years)	Investment or expenses envisaged during the period 1975/1977 in UC	ACCEPTABILITY :		CAPACITIES OF THOSE RESPONSIBLE		ESSENTIAL MEASURE : Delay in the execution of the work if support is not granted				IMPORTANCE FOR THE COMMUNITY : Additional production to		Acceleration of production			Elimination of bottlenecks	APPRECIATION OF THE TECHNICAL RISKS			APPRECIATION OF THE SITUATION			DEGREE OF INNOVATION in relation to the state of existing technology :					POSSIBILITY OF COOPERATION WITH SIMILAR PROJECTS :	JUSTIFICATION OF MEANS ENVISAGED		OTHER OBSERVATIONS	CONCLUSIONS
				Does the project have a technological development aspect ?	Is the natural or legal person who is responsible for the project constituted according to the provisions of Article 3 of regulation 3056/73.	Financial	Technical	Less than one year	Between one and five years	More than five years	Project abandonned	1985 oil/gas in t.e.p.	1995 oil/gas in t.e.p.	Less than five years	Between five and ten years	More than ten years		Great	Average	Small	Insufficient equipment and/or existing techniques	Technical: Number and/or extent of possible applications: In the Community	Technical: Number and/or extent of possible applications: In the world	Corresponding to the state of the art	Improvement by stages	Complete innovation	Risks of duplication of effort: With other existing techniques	Risks of duplication of effort: With techniques under development		Relation between means envisaged and foreseeable results: Suitable	Relation between means envisaged and foreseeable results: Not Justifiable		
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
01.01	Methodology for detailed seismic study of oil and gas fields GERTH	3	2,935,000	no	x	x	x															in competition with others - general			x		x				x		Hydrophones and sources for ships equipment as to be found elsewhere	Improvement of sources and impplantation of hydrophones as a general problem. Favourable results reached in a special case are scarcely to be produced elsewhere. The results of the projects are therefore advantageous for the applicants. Proposition: not to be supported
01.02	Study of problems related to seismic study at sea GERTH	3	3,889,000	x	x	x	x			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	Research into methodologies and geophysical techniques related to complex geological situations AGIP-CGG	4	5,280,000	x	x	x	x			x					x					x		3-5			x		x				x		Only slight technological development	The importance of the technological development will be equalised by optimising known techniques in order to search very complicated geological structures. Proposition: support to 40%
01.04	Geotechnical studies of sea bottom and sub-bottom in deep water conditions CGG-SERCEL	2	197,000	x	x	x	x		x						x				x		x				x		x				x		Further development of a known navigation procedure	With the improvement of navigation techniques of ships envisaged, the evaluation of seismogrammes will be achieved. Proposition: support to 40%
01.05	Study concerning the preliminary reconnaissance of deep water areas GERTH	2	900,000	x	x	x	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	Development of a shipboard optical seismic data processor NATIONAL SCIENCE COUNCIL OF IRELAND	3	148,000	x	x	x	x				x							100%						x									Application of laser 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

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

YEAR 1975

AREA OF TECHNOLOGICAL DEVELOPMENT : 02: DRILLING

No	Name of the project and responsible person	Duration (years)	Investment or expenses envisaged during the period 1975/1977 in UC	ACCEPTABILITY :		CAPACITIES OF THOSE RESPONSIBLE		ESSENTIAL MEASURE : Delay in the execution of the work if support is not granted				IMPORTANCE FOR THE COMMUNITY : Additional production to		Acceleration of production			APPRECIATION OF THE TECHNICAL RISKS			APPRECIATION OF THE SITUATION			DEGREE OF INNOVATION in relation to the state of existing technology :					POSSIBILITY OF COOPERATION WITH SIMILAR PROJECTS :	JUSTIFICATION OF MEANS ENVISAGED		OTHER OBSERVATIONS	CONCLUSIONS
				Does the project have a technological development aspect ?	Is the natural or legal person who is responsible for the project constituted according to the provisions of Article 3 of regulation 3056/73.	Financial	Technical	Less than one year	Between one and five years	More than five years	Project abandonned	1985 oil/gas in t.e.p.	1995 oil/gas in t.e.p.	Less than five years	Between five and ten years	More than ten years	Elimination of bottlenecks	Great	Average	Small	Insufficient equipment and/or existing techniques	Number and/or extent of possible applications : In the Community	In the world	Corresponding to the state of the art	Improvement by stages	Complete Innovation	Risks of duplication of effort : With other existing techniques	With techniques under development		Relation between means envisaged and foreseeable results : Suitable	Not Justifiable		
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
02.02	Design and construction of a dynamically positioned drillship BP TRADING C.	3	9,035,000 (1)	Yes	Yes	Sufficient		-	x	-	-	-	-	-	x	x	-	x	-	-	x	considerable		-	-	x	-	x	Scott Lithgow and Ben Odeco 02.26 02.28	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	Development of marine drilling risers BP TRADING CO.	2	309,000	Yes	Yes	Sufficient		x	-	-	-	-	-	-	x	-	-	-	x	x	(x)	-	-	-	x	-	x	x	Ackermann Van Haeren results could be applied to projects 02.22, 26, 28 GERTH 1974	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.
02.06	Design and development of new drilling equipment for a dynamically positioned drillship BEN ODECO LTD	2	3,708,000	Yes	Yes	Sufficient		-	x	-	-	-	-	-	x	-	-	-	-	x	x	considerable		-	x	-	-	x	Cfr. BP and Scott Lithgow 02.22 02.28	x	-	Development for drilling in 1000 m of water	Development cover marine riser study and B.O.P. control (destined for a new drillship) Proposition: support to 40%.
02.08	Development of drilling equipment and general facilities for a dynamically positioned drillship SCOTT LITHGOW LTD.	2	298,000	No	Yes	Sufficient		x	-	-	-	-	-	-	x	-	-	-	-	x	x	some		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	Novel polymer system for oil based drilling muds BP TRADING CO	2	343,000	Yes	Yes	Sufficient		-	x	-	-	-	-	x	-	-	-	-	x	-	x	considerable		-	x	-	-	x	-	x	-	75% chance of success	Improving drilling Proposition: not to be supported.
02.07	Development of a new concept for exploratory drilling REDHURST ENG CO LTD	3	792,000	Yes	Yes	Insuf-ficient	Suffic-ient	-	x	-	x	-	-	-	-	x	-	x	-	-	-	-	-	x	-	-	x	-	-	x	-	Far too ambitious for the Company	To reject Proposition: not to be supported
02.09	Surface readings of borehole inclination and directional drilling BURO E KREBS	3	803,000	Yes	Yes	Sufficient		-	x	-	-	-	-	x	-	-	-	-	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	Production of drilling modules CLEVELAND BRIDGE CO	2	2,280,000	Minimal	Yes	Insuf-ficient	Suffi-cient	-	-	-	x	-	-	-	-	-	-	-	x	(x)	some		-	x	-	-	-	-	-	x	Only module - design is not admissible under Regulation 3056 (£100,000)	Concept of drilling module useful, but proposal needs considerable development in association with drilling company Proposition: not to be supported.

(1) Reduction proposed by the Commission: 4,160,000

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

No	Name of the project and responsible person	Duration (years)	Investment or expenses envisaged during the period 1975/1977 in UC	ACCEPTABILITY :		CAPACITIES OF THOSE RESPONSIBLE		ESSENTIAL MEASURE : Delay in the execution of the work if support is not granted				IMPORTANCE FOR THE COMMUNITY : Additional production to		Acceleration of production			Elimination of bottlenecks	APPRECIATION OF THE TECHNICAL RISKS			APPRECIATION OF THE SITUATION			DEGREE OF INNOVATION in relation to the state of existing technology :					POSSIBILITY OF COOPERATION WITH SIMILAR PROJECTS :	JUSTIFICATION OF MEANS ENVISAGED		OTHER OBSERVATIONS	CONCLUSIONS
				Does the project have a technological development aspect ?	Is the natural or legal person who is responsible for the project constituted according to the provisions of Article 3 of regulation 3056/73.	Financial	Technical	Less than one year	Between one and five years	More than five years	Project abandoned	1985 oil/gas in t.e.p.	1995 oil/gas in t.e.p.	Less than five years	Between five and ten years	More than ten years		Great	Average	Small	Insufficient equipment and/or existing techniques	Number and/or extent of possible applications : In the Community	In the world	Corresponding to the state of the art	Improvement by stages	Complete innovation	Risks of duplication of effort : With other existing techniques	With techniques under development		Relation between means envisaged and foreseeable results : Suitable	Not Justifiable		
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 "Monk Faber" platform-spar MONK FABER CO	1	240.000	Yes	Yes	Sufficient		-	x	-	-	-	-	x	-	-	-	no hardware			x	1985 (25-30)		-	x	-	-	-	EMH, GERTH, Bouygues for flexible joints	x	-	Relitavely simple articulated structure entirely assembled in harbour; new type of flexible joint, re-useable	Final developpement after feasibility study and model tests; no hardware Proposition: not to be supported
03.04	Safety of offshore structures TNO	2	124,000	No	Yes	Sufficient		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Limited to collection of fundamental data	Falls outside scale of reference established Proposition: not to be supported
03.05	Calculation and measurement of the motions of an anchored floating drilling platform TNO	2	207,000	No	Yes	Sufficient		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Limited to collection of fundamental data	Falls outside scale of references established Proposition: not to be supported
03.06	Development of a 300 h.p. hydrostatic motor unit CARRON CO	3	960,000	Yes	Yes	Sufficient		-	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 3056. Proposition: not to be supported

03.07	Study of exploitation and storage platforms in deep water (650 m) (BOUYGUES (executed by E.O.A. (1))	2	1,600,000	Yes	Yes	Sufficient	-	-	-	x	-	-	x	-	-	Yes	no hardware		production equipment for water depth of more than 300 m, not yet existant	3	1985 3	-	x	-	-	-	GERTH, MONK FABER, EMH, for flexible joints	x	-	Starting of new ideas	Concept studies and model tests; no hardware Proposition: not to be supported
03.08	Articulated platform EMH	2	1,192,000	Yes	Yes	Sufficient	-	x	-	-	-	-	x	-	-	-	only for the prototype of a joint		x	1985 2-5	1990 10-15	-	x	-	-	x	GERTH: "Production of hydrocarbons in deep waters", project agreed by the Council in 1974 04.15/ 03.07	x	-	Duplication with GERTH, 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 Proposition: not to be supported
03.09	Tripod structure for offshore platforms INTERCONSULT	2	1,216,000	Yes	Yes	Sufficient	-	x	-	-	-	-	x	-	-	-	no hardware		-	2-3		-	-	x	-	x	-	Another fixed platform	x	-	New concept for cheaper construction	Project envisages use of existing technologies in different combinations Very little contribution for the future Proposition: not to be supported
03.11	Research into a transferrable concrete production platform STRABAG-BAU AG	4	1,115,000	Yes	Yes	Sufficient	-	-	-	-	50,000	-	-	x	-	-	-	-	-	building in shallow waters	25-30	-	-	-	x	-	x	-	Caledonian platform structures 03.22	x	-	Production from suitable fields	Might make economic production in up to 10 smaller fields by 1990 Proposition: not to be supported
03.12	Development of an automated mooring system WHARTON ENG CO LTD	2	1,800,000	Yes	Yes	Sufficient	-	-	x	-	-	-	-	-	-	x	-	x	-	x	-	-	-	x	-	-	-	03.05	-	-	Dynamic positioning by rapid modification of cable tension. One control point for the whole system which applies 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. Proposition: support to 35%

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

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 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.e.p.	1995 oil/gas in t.e.p.	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 effort : With other existing techniques	With techniques under development	POSSIBILITY OF COOPERATION 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 TECNOMARE	2	2,416,000	Yes	Yes	sufficient		-	x	-	-	100,000	-	-	x	-	Yes, for deeper waters	x	-	-	x	10	25-30	-	-	x	-	x	Other TLP projects	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	sufficient		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	4,423,000 (2)	Yes	Yes	sufficient		-	x	-	-	100,000	-	-	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) 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	6,672,000	Yes	Yes	sufficient		-	-	-	-	-	-	-	x	-	Yes, for deeper waters	x	-	-	x	-	20-25	-	-	x	-	x	Other TLP projects	x	-	Would benefit by support from oil company	Flexible approach to development of production systems for deep water (TLP) Proposition: support to 40%

03.22	Oil production platform CALEDONIAN PLATFORMS LTD	1	528,000	Yes	Yes	Insuffi-cient	Suffi-cient	-	-	-	-	-	-	-	-	-	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 BALAENA STRUCTURES LTD	1	319,000	Yes	Yes	?	Suffi-cient	-	x	-	-	-	-	-	x	-	-	-	-	x	-	3	5-8	-	x	-	-	-	-	x	-	Improved construction and launching system	Excess emphasis on marinisation 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	sufficient		-	-	-	-	-	-	-	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 CFEM-SCOTT LITHGOW	2	750,000	Yes	Yes	sufficient		x	x	-	-	-	-	x	-	-	-	-	x	-	-	3	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	11,640,000	Yes	Yes	sufficient		-	x	-	-	-	-	x	-	-	-	x	-	-	x	numerous		-	-	x	-	x	-	x	-	First application: Magnus	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 liquifaction plant PREUSSAG AG	2	1,429,000	Yes	Yes	sufficient		-	-	x	-	50/ 75.000 b/d	150/ 250,000 b/d	-	-	-	x	-	x	-	x	3-5	more than 10	-	x	-	-	-	Yes - with Salzgitter on the question of the flexible discharge system of the platform or LNG tanker	x	-	-	The project is receivable Proposition: support to 40%
03.29	Production of LNG and methanol platforms SALZGITTER AG	2	1,635,000	Yes	Yes	sufficient		-	-	x	-	2	6	-	-	-	x	-	x	-	x	3-5	more than 10	-	x	-	-	-	Yes, with Preussag AG 03.28	x	-	-	The project is receivable 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) : 23,656,000 u.a.

ANNEX

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

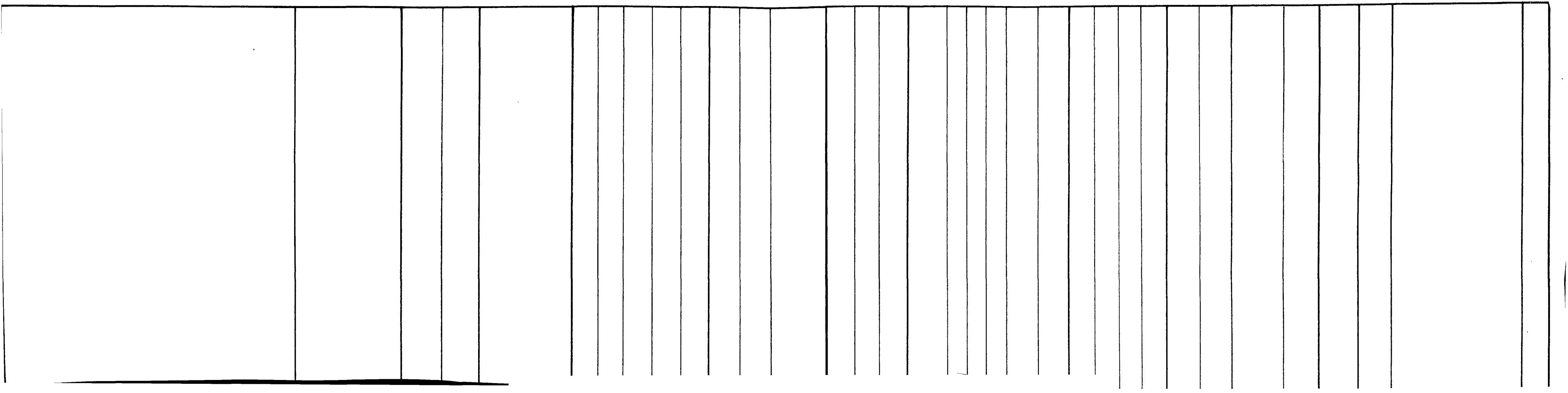
YEAR 1975

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 :		CAPACITIES OF THOSE RESPONSIBLE		ESSENTIAL MEASURE : Delay in the execution of the work if support is not granted				IMPORTANCE FOR THE COMMUNITY : Additional production to		Acceleration of production			
				Does the project have a technological development aspect ?	Is the natural or legal person who is responsible for the project constituted according to the provisions of Article 3 of regulation 3056/73.	Financial	Technical	Less than one year	Between one and five years	More than five years	Project abandonned	1985 oil/gas in t.e.p.	1995 oil/gas in t.e.p.	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
03.32	Mobile platform for power generation based on the gas production of small oil fields DEUTSCHE BABCOCK & WILCOX	3	2,800,000	yes	yes	sufficient		-	-	x	-	0,5	2-4	-	-	-	x
03.02	Heavy drop hammer REID CARTER & WILSON	3	732,000	yes	yes	sufficient		-	x	-	-	-	-	-	-	-	-
03.10	A new pressure grouping process for inserting pile SOLMARINE	1	1,047,000	yes	yes	sufficient		-	x	-	-	-	-	-	-	-	x
03.23	Underwater pile hammer (300 m) KOHRING-MENCK	3	740,000	yes	yes	insufficient	sufficient	-	x	-	-	-	-	-	-	-	x
03.31	Offshore production system "Exboy" project FREEMAN FOX & PARTNERS	2	1,800,000	yes	yes	sufficient		-	x	-	-	-	-	-	*	-	-

No 1975	APPRECIATION OF THE TECHNICAL RISKS			APPRECIATION OF THE SITUATION			DEGREE OF INNOVATION in relation to the state of existing technology :					POSSIBILITY OF COOPERATION WITH SIMILAR PROJECTS :	JUSTIFICATION OF MEANS ENVISAGED		OTHER OBSERVATIONS	CONCLUSIONS
				Technical	Economic					Risks of duplication of effort			Relation between means envisaged and foreseeable results			
	Great	Average	Small	Insufficient equipment and/or existing techniques	Number and/or extent of possible applications In the Community	In the world	Corresponding to the state of the art	Improvement by stages	Complete innovation	With other existing techniques	With techniques under development		Suitable	Not Justifiable		
1	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
03.32	-	x	-	x	5-10		-	x	-	-	-	Yes - with TECNOMARE	x	-	-	Proposition: support to 40%
03.02	x	-	-	x	10	30-40	-	x	-	x	-	03.30 03.10 03.23	x	-	Economical solution making certain marginal fields more commercial	Proposition: not to be supported
03.10	-	x	-	x	20	30-40	-	x	-	-	-	03.30 03.02 03.23	x	-	Advantages for foundation works	Proposition: not to be supported
03.23	x	-	-	x	6	30-40	-	-	x	-	-	03.02	x	-	First to aim at this depth	Proposition: not to be supported
03.31	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 proven contractor	Must be considered in bracket of top priority for platforms (TLP) Proposition: support to 40%

These projects taken together provide an essential complement to the development of buoyant platforms (TLP)



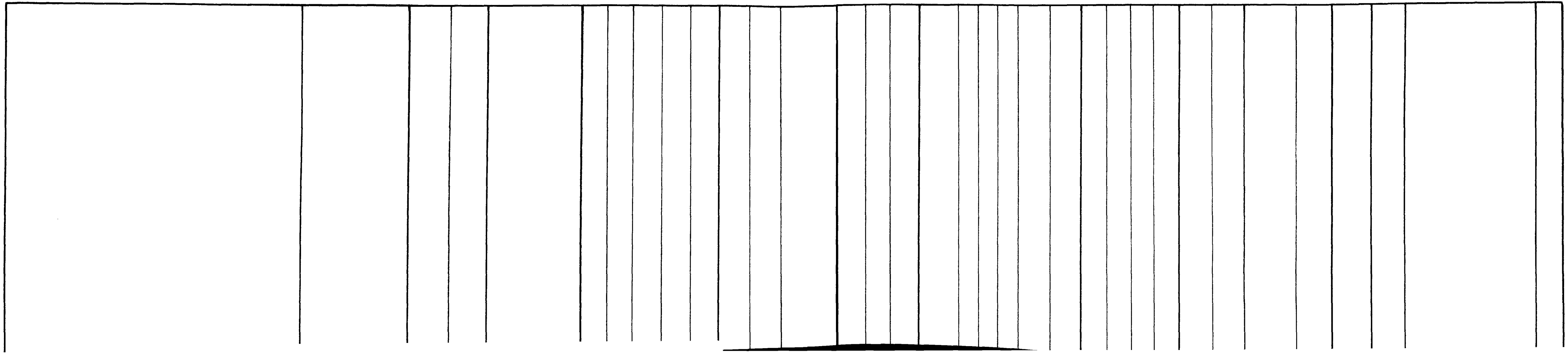
ANNEX

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

YEAR 1975

AREA OF TECHNOLOGICAL DEVELOPMENT : 04: PRODUCTION

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 to : 1985 oil/gas in t.e.p.	1995 oil/gas in t.e.p.	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 effort : With other existing techniques	With techniques under development	POSSIBILITY OF COOPERATION 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
04.01	Elaboration of a reservoir model by the finite element method FRANLAB	3	345,000	yes	yes	sufficient		-	x	-	-	N	L	-	-	-	-	-	-	x	x	general		-	x	-	04.02		04.02	x	-	Of marginal significance as computer model	Rationalization only No risks, no hardware, normal industrial matters Proposition: not to be supported
04.04	Production offshore in Arctic zones GERTH	3(7)	5,707,000	yes	yes	sufficient		-	-	x	-	1	2-3	-	x	-	x	x	-	-	x	2-3	2-3	-	-	x	-	-	-	x	-	Very ambitious bottle neck type development	Merits consideration Proposition: support to 40%
04.08	Separation process BP TRADING CO	4	1,130,000	yes	yes	sufficient		-	x	-	-			-	x	-	-	-	-	x	x	min. 6	many	-	x	-	-	-	-	x	-	-	Should reduce size and cost of platforms and make small fields economic Proposition: support to 40%
04.10	Centrifugal separation of crude oil/water BERTIN	2	513,000	yes	yes	sufficient		-	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-	x	-	Normal industrial development matter. No risks. Proposition: not to be supported
04.11	Adaptation of drilling semi-submersibles for diverse missions GERTH	2	360,000	yes	yes	sufficient		x	-	-	-	-	-	-	-	-	-	-	-	x	x	-	-	x	-	-	x	-	-	-	x	Already accomplished	No risks - normal industrial matter Proposition: not to be supported
04.15	Production project 100-200 m GERTH	5	27,500,000	yes	yes	sufficient		-	x	-	-	-	-	2 fields	-	-	-	-	x	-	x	-	-	x	-	x	x	x 04.08	03.07; 03.08	x	-	-	Proposition: delayed to 1976



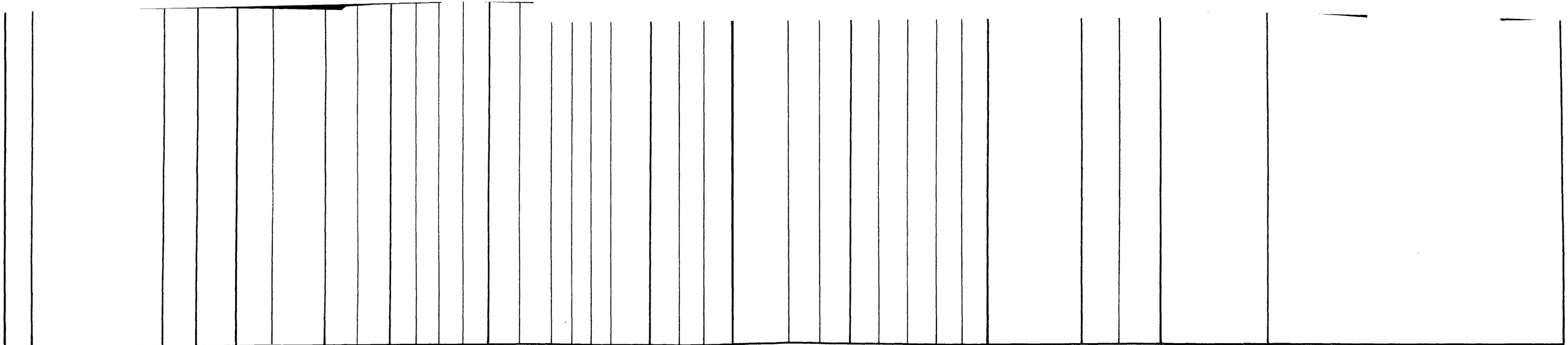
ANNEX

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

YEAR 1975

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

No	Name of the project and responsible person	Duration (years)	Investment or expenses envisaged during the period 1975/1977 in UC	ACCEPTABILITY :		CAPACITIES OF THOSE RESPONSIBLE		ESSENTIAL MEASURE : Delay in the execution of the work if support is not granted				IMPORTANCE FOR THE COMMUNITY : Additional production to		Acceleration of production			Elimination of bottlenecks	APPRECIATION OF THE TECHNICAL RISKS			APPRECIATION OF THE SITUATION Technical	Economic		DEGREE OF INNOVATION in relation to the state of existing technology :					POSSIBILITY OF COOPERATION WITH SIMILAR PROJECTS :	JUSTIFICATION OF MEANS ENVISAGED		OTHER OBSERVATIONS	CONCLUSIONS
				Does the project have a technological development aspect ?	Is the natural or legal person who is responsible for the project constituted according to the provisions of Article 3 of regulation 3056/73.	Financial	Technical	Less than one year	Between one and five years	More than five years	Project abandonned	1985 oil/gas in t.e.p.	1995 oil/gas in t.e.p.	Less than five years	Between five and ten years	More than ten years		Great	Average	Small	Insufficient equipment and/or existing techniques	Number and/or extent of possible applications In the Community	In the world	Corresponding to the state of the art	Improvement by stages	Complete innovation	Risks of duplication of effort With other existing techniques	With techniques under development		Relation between means envisaged and foreseeable results Suitable	Not Justifiable		
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
05.01	Improved crude oil production and treatment BP TRADING CO	3 (5)	1,492,000	yes	yes	sufficient		-	x	-	-	5.10^6 (e.g. Forties)	15.10^6	-	-	-	-	-	x	-	x	20	general	-	X		-	-	AGIP '74 SHELL '74 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	Pilot project of microemulsion and polymer floods in the Chateaurenard reservoir GERTH	3	3,500,000	yes	yes	sufficient		-	x	-	-	4.10^6	$+2.10^6$	-	-	-	-	-	x	-	x	20	general	-	X		-	-	AGIP '74 SHELL '74 05.01 05.03 05.04	x	-	,, ,, ,,	General application in more on- and offshore worldwide. Proposition: support to 40%
05.03	Development of heavy oil production from tar sands in Federal German Republic WINTERSHALL	3	1,385,000	yes	yes	sufficient		-	x	-	-	65.10^3	2.10^6	-	-	-	-	-	x	-	x	20	general	-	X		-	-	AGIP '74 SHELL '74 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	Hydrocarbons recovery from chalk deposits SHELL INTERNATIONAL	2	11,666,000	yes	yes	sufficient		-	-	-	x	Increasing recovery factor from 7 to 22%		-	-	-	-	-	x	-	x	20	general	-	X		-	-	AGIP '74 SHELL '74 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	Exploitation of oil shale deposits GERTH	1	353,000 (1)	partial	yes	sufficient		x	-	-	-	-	-	-	-	-	-	-	-	-	-	general		x	-	-	-	-	x	-	Wealth of knowledge available in Germany, USA and elsewhere	The technical content of this project requires 354,600 u.a. Proposition: support to 40%



(1) Reduction proposed by the Commission: 557,000 u.a.

ANNEX

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

YEAR 1975

AREA OF TECHNOLOGICAL DEVELOPMENT : 06: ENVIRONMENTAL INFLUENCES ON OIL 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 UC	ACCEPTABILITY :		CAPACITIES OF THOSE RESPONSIBLE		ESSENTIAL MEASURE : Delay in the execution of the work if support is not granted				IMPORTANCE FOR THE COMMUNITY : Additional production to		Acceleration of production			Elimination of bottlenecks	APPRECIATION OF THE TECHNICAL RISKS			APPRECIATION OF THE SITUATION			DEGREE OF INNOVATION in relation to the state of existing technology :					POSSIBILITY OF COOPERATION WITH SIMILAR PROJECTS :	JUSTIFICATION OF MEANS ENVISAGED		OTHER OBSERVATIONS	CONCLUSIONS
				Does the project have a technological development aspect ?	Is the natural or legal person who is responsible for the project constituted according to the provisions of Article 3 of regulation 3056/73.	Financial	Technical	Less than one year	Between one and five years	More than five years	Project abandonned	1985 oil/gas in t.e.p.	1995 oil/gas in t.e.p.	Less than five years	Between five and ten years	More than ten years		Great	Average	Small	Insufficient equipment and/or existing techniques	Number and/or extent of possible applications : In the Community	In the world	Corresponding to the state of the art	Improvement by stages	Complete innovation	Risks of duplication of effort : With other existing techniques	With techniques under development		Relation between means envisaged and foreseeable results : Suitable	Not Justifiable		
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 CROUZET	1	792,000	small	yes	yes	yes		x											x	x			x					06.03 to 07.02 03.12	x		Mostly an assembly 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 swell measurements from aerial photographs BERTIN	2	702,000	x	yes	yes	yes		x								x		x		x				x				06.01 06.04 07.02			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 optimisation of activity of submerged engines, fixed or mobile and consequently the realization of large economies. It can at the same time select the most favourable sites for planning fixed structures Applicable to production and pipe laying. Proposition: not to be supported
06.04	Use of EDP techniques for sea state forecasting	1	108,000	no	yes	yes	yes		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 risks are small. Directly connected with basic activities. No technological development. Proposition: not to be supported

	BERTIN																														
06.05	Swell damper to protect offshore installations BERTIN	1	270,000	yes	yes	yes	yes		x								x		x		x			x			06.01 to 07.02 03.12			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 annual activity time on platforms and barges. Directlz applicable to production and pipe laying activities. Proposition: support to 30%
07.01	Service package unit for offshore soil investigation PREUSSAG AG	2	3,508,000	yes	yes	yes	yes		x								x		x		x			x			07.02 08.01 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 aid of 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 CESCO	2	276,000	yes	yes	yes	yes		x								x		x		x			x			07.01 08.01 01.04 01.05			Perfecting techniques and equipment	This project envisages developing materials to equip the ship which PREUSSAG will build and increase its possibilities. The two proposals are complementary and consequentlz the previous conclusion applied to FUGRO CESCO'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 (Telesub) TECNOMARE	3	7,907,000	yes	yes	yes	yes			x							x	x			x			x			07.05 07.07 to 07.09 08.01 09.01	x		Feasibility study completed	Existing submarine vehicles are always manned and limited in work time and depth (200 m). The WINN TECHNOLOGY telecommanded vehicle, now being built, was conceived for recovery operations and rests on the sea bottom. A telesub must give the same services as a manned submarine but a t depths up to 1000 m and of almost limitless duration. Applicable to major activities of present technology and concerning the technological development of the next generation of machinery. Proposition: support to 30%

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

YEAR 1975

AREA OF TECHNOLOGICAL DEVELOPMENT : 07: SERVICE SHIPS AND SUBMERSIBLES 08: DIVING

No	Name of the project and responsible person	Duration (years)	Investment or expenses envisaged during the period 1975/1977 in UC	ACCEPTABILITY :		CAPACITIES OF THOSE RESPONSIBLE		ESSENTIAL MEASURE : Delay in the execution of the work if support is not granted				IMPORTANCE FOR THE COMMUNITY : Additional production to		Acceleration of production			Elimination of bottlenecks	APPRECIATION OF THE TECHNICAL RISKS			APPRECIATION OF THE SITUATION			DEGREE OF INNOVATION in relation to the state of existing technology :					POSSIBILITY OF COOPERATION WITH SIMILAR PROJECTS :	JUSTIFICATION OF MEANS ENVISAGED		OTHER OBSERVATIONS	CONCLUSIONS
				Does the project have a technological development aspect ?	Is the natural or legal person who is responsible for the project constituted according to the provisions of Article 3 of regulation 3056/73.	Financial	Technical	Less than one year	Between one and five years	More than five years	Project abandonned	1985 oil/gas in t.e.p.	1995 oil/gas in t.e.p.	Less than five years	Between five and ten years	More than ten years		Great	Average	Small	Technical : Insufficient equipment and/or existing techniques	Economic : Number and/or extent of possible applications : In the Community	In the world	Corresponding to the state of the art	Improvement by stages	Complete innovation	Risks of duplication of effort : With other existing techniques	With techniques under development			Relation between means envisaged and foreseeable results : Suitable	Not Justifiable		
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 CJB OFFSHORE LTD	3	1,920,000	yes	yes	yes	yes			x							x		x		x				x					x		Applicable to all submerged metal structures. The project foresees developing known techniques	Corrosion is particularly severe in sea water. Its prevention by classic covering methods tends to increase platform maintenance costs, without guaranteeing the working life of the installation. Cathodic protection is permanent and costs are low. Assistance to production operations. Proposition: support to 30%
07.05	Development of submersibles and their supply boats BRUKER-PHYSIK	4	3,859,000	yes	yes	yes	yes			x							x		x		x	more than 10	more than 40						07.01 07.03 07.07 to 07.09 08.01 WINN 74.134	x		Innovation is in the modular system for the 5 submarines 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 manned, then telecommanded may perhaps be increased. The multihull formula for the service ships enables its operation in very high seas. Directly related to major activities. Proposition: support to 35%
07.07	A submerged air chamber machine COLEBRAND	3	1,800,000	yes	yes	yes	yes		x								x			x	x				x				07.05 07.06 07.08 07.09 08.01 09.01 WINN 74.134		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 maintenance machinery for submerged structures. By conventional methods (painting, sanding, 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 WINN TECHNOLOGY LTD	4	1,298,000	yes	yes	yes	yes			x						x	x			10	40		x				07.05 07.09 08.01 09.01 WINN 74.134	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 35%
07.09	Subsea viewing and visualisation system FERRANTI LTD	3	667,000	yes	yes	yes	yes		x							x	x						x	x			07.05 07.07 07.09 08.01 09.01 WINN 74.134	x		System usable 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 DOG HANSA	2	1,564,000	yes	yes	yes	yes			x						x	x						x				07.05 07.07 07.09 09.01 WINN 74.134			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 effeciency. It may inspect and work at 300 m water depth. Directly connected with major activities. Proposition: support to 30%

ANNEX

YEAR 1975

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

AREA OF TECHNOLOGICAL DEVELOPMENT : 09: 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 :		CAPACITIES OF THOSE RESPONSIBLE		ESSENTIAL MEASURE : Delay in the execution of the work if support is not granted				IMPORTANCE FOR THE COMMUNITY : Additional production to		Acceleration of production			Elimination of bottlenecks	APPRECIATION OF THE TECHNICAL RISKS			APPRECIATION OF THE SITUATION		DEGREE OF INNOVATION in relation to the state of existing technology :					POSSIBILITY OF COOPERATION WITH SIMILAR PROJECTS :	JUSTIFICATION OF MEANS ENVISAGED		OTHER OBSERVATIONS	CONCLUSIONS
				Does the project have a technological development aspect ?	Is the natural or legal person who is responsible for the project constituted according to the provisions of Article 3 of regulation 3056/73.	Financial	Technical	Less than one year	Between one and five years	More than five years	Project abandonned	1985 oil/gas in t.e.p.	1995 oil/gas in t.e.p.	Less than five years	Between five and ten years	More than ten years		Great	Average	Small	Insufficient equipment and/or existing techniques	Number and/or extent of possible applications : In the Community	In the world	Corresponding to the state of the art	Improvement by stages	Complete innovation	Risks of duplication of effort : With other existing techniques	With techniques under development		Relation between means envisaged and foreseeable results : Suitable	Not Justifiable		
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
09.01	Execution of field tests and extension of working capabilities of remote controlled submarine vehicle "TM 102" TECNOMARE	4	10,543,000	yes	yes	yes	yes			x							x		x		x	10	40		x				07.01 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
09.04	Pipe laying in deep waters BLOHM & VOSS AG	1	192,000	yes	yes	yes	yes			x							x			x					x				09.06 09.07 10.04	x		The project foresees completing by theo ry and models a study to enable the engineering stage 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
09.06	New technology for pipe laying at sea BOUYGUES	2	1,740,000	yes	yes	yes	yes				x						x	x			x				x				09.04 09.07 10.04			The innovation 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 35%

09.07	Pipe interior transport machine COLEBRAND LTD	3	1,680,000	yes	yes	yes	yes		x								x	x			x			SEAL 1974	09.06 10.04			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. Marginal technique for pipelaying Proposition: not to be supported
10.04	Laying a 12" flexible conduit 15 km long in 550 m of water COFLEXIP	3	1,240,000 (1)	yes	yes	yes	yes		x						x		x	x			x				10.05		x	Applicable to all submarine transport over short distance (from well 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 anticipation is limited to the first phase (1,240,000 u.a.) Applicable to transport operations. Proposition: support to 35%
10.05	High pressure flexible hoses for transport and exploitation of underwater hydrocarbons STANDARD TELEPHONES & CABLES LTD	3	1,651,000	yes	yes	yes	yes		x		Gen. applicat. for prod/drillg systems				x	x		x	Gen.applicat. for prod/drillg 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 diametres Proposition: support to 35%
10.06	LNG loading arm DAVID BROWN VOSPER LTD	3	2,490,000	yes	yes	yes	yes				8 mio	12 mio			x	x		x	12+	30+		x		Cooperation with companies manufacturing offshore structures is envisaged to allow joint development of liquifaction and loading	x			The success of this project will provide the vital link in the offshore liquifaction of gas. With no loading system there is no point in liquifaction 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. Proposition: support to 40%

(1) Reduction proposed by the Commission: 18,215,000 u.a.

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

YEAR 1975

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 UC	ACCEPTABILITY :		CAPACITIES OF THOSE RESPONSIBLE		ESSENTIAL MEASURE : Delay in the execution of the work if support is not granted				IMPORTANCE FOR THE COMMUNITY : Additional production to		Acceleration of production			Elimination of bottlenecks	APPRECIATION OF THE TECHNICAL RISKS			APPRECIATION OF THE SITUATION			DEGREE OF INNOVATION in relation to the state of existing technology :					POSSIBILITY OF COOPERATION WITH SIMILAR PROJECTS :	JUSTIFICATION OF MEANS ENVISAGED		OTHER OBSERVATIONS	CONCLUSIONS
				Does the project have a technological development aspect ?	Is the natural or legal person who is responsible for the project constituted according to the provisions of Article 3 of regulation 3056/73.	Financial	Technical	Less than one year	Between one and five years	More than five years	Project abandoned	1985 oil/gas in t.e.p.	1995 oil/gas in t.e.p.	Less than five years	Between five and ten years	More than ten years		Great	Average	Small	Technical: Insufficient equipment and/or existing techniques	Economic: Number and/or extent of possible applications: In the Community	Economic: Number and/or extent of possible applications: In the world	Corresponding to the state of the art	Improvement by stages	Complete innovation	Risks of duplication of effort: With other existing techniques	Risks of duplication of effort: With techniques under development		Relation between means envisaged and foreseeable results: Suitable	Relation between means envisaged and foreseeable results: Not Justifiable		
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	Harris system heavy lift unit HARRIS & PARTNERS	2	1,046,000	yes	yes	yes	yes		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 machine 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 UKAEA-CULHAM	4	835,000	small	yes	yes	yes			x									x						x							x	Applicable mainly to transport by large marine carriers	The programme contains an important element of basic research. Although the investigation method is ingenious, 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	893,000	small	yes	yes	yes			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 sites as possible in Netherlands and proposes prevention methods. Marginal transport project. Proposition: not to be supported
11.04	Underwater examination of tankers RONTGEN TD	3	614,000	yes	yes	yes	yes		x								x		x		x				x				07.04 07.07			Same system as project (11.02) above but applied to tankers	Project marginally transport Proposition: not to be supported
12.02	Safe storage of hydrocarbons especially LNG BAM BEGEMANN	2	326,000	small	yes	yes	yes			x										x	special problem for Netherlands		?	x	x					x			The project is not receivable. 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 OTP	3	1,920,000	yes	yes	yes	yes		x										x		x					x					x		Cryogenic pipelines are likely to be more costly than alternate gas lines of the same capacity. However, movements of gas in liquid form may greatly assist the economics of peak sharing and allow diverse use of negative heat. Proposition: support to 30%
12.04	High reliability silent relief valve BERTIN	2	288,000	yes	yes	yes	yes	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 3056/73

YEAR 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 expenses envisaged during the period 1975/1977 in UC	ACCEPTABILITY :		CAPACITIES OF THOSE RESPONSIBLE		ESSENTIAL MEASURE : Delay in the execution of the work if support is not granted				IMPORTANCE FOR THE COMMUNITY : Additional production to		Acceleration of production			Elimination of bottlenecks	APPRECIATION OF THE TECHNICAL RISKS			APPRECIATION OF THE SITUATION			DEGREE OF INNOVATION in relation to the state of existing technology :				POSSIBILITY OF COOPERATION WITH SIMILAR PROJECTS :	JUSTIFICATION OF MEANS ENVISAGED		OTHER OBSERVATIONS	CONCLUSIONS
				Does the project have a technological development aspect ?	Is the natural or legal person who is responsible for the project constituted according to the provisions of Article 3 of regulation 3056/73.	Financial	Technical	Less than one year	Between one and five years	More than five years	Project abandoned	1985 oil/gas in t.e.p.	1995 oil/gas in t.e.p.	Less than five years	Between five and ten years	More than ten years		Great	Average	Small	Insufficient equipment and/or existing techniques	Number and/or extent of possible applications : In the Community	In the world	Corresponding to the state of the art	Improvement by stages	Complete innovation	Risks of duplication of effort : With other existing techniques	With techniques under development		Relation between means envisaged and foreseeable results : Suitable	Not Justifiable		
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	yes	yes			x							x			x	x				x				All submarine autonomous vehicles			Useful for operations where rapid action by an automatic machine is essential	Machines powered by cable are limited both in manoeverability and range. They cannot be used in rough seas. Present automated submersibles have power up to 15 kw which limits their functioning during very brief periods. The building of a 100 kw 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 35%
14.01	Cavern storage BP TRADING CO	1	1,144,000	yes	yes	yes	yes				x							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. Yet 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 30%
14.02	Mooring system for the placing of concrete offshore structures SEA TANK CO	2	159,000	small	yes	yes	yes		x								x			x	x			x					14.03			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. Helpful for production and storage operations. Proposition: not to be supported

14.03	Underwater storage and associated structures TRAMCO	3	2,000,000 (1)	yes	yes	yes	yes		x								x	x						x				12.01 to 12.05 14.02		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 sea sites, self-deploying structures with reservoirs as bases, which permit sure and less delicate siting, reservoir resistance permits the avoidance of balast and gives a protection against pollution risks,; In certain conditions an adequate casing enables LNG to be stored. Directly connected with present and future production and storage technology. Proposition: support to 30%
14.05	Construction of semi-buried reservoirs of large capacity S.F.P BP	3	4,501,000	none	yes	yes	yes		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 power 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	329,000	yes	yes	yes	yes		x								x		x			x							x		Hull or floating storage reservoir with an anchoring system with swell damper	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 market. Marginally transport. Proposition: not to be supported
14.07	System for storage tank examination RÖNTGEN TD	3	615,000	yes	yes	yes	yes		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 is marginally storage and transport. Proposition: not to be supported

(1) Reduction proposed by the Commission: 2,000,000 u.a.

ANNEX

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

YEAR 1975

AREA OF TECHNOLOGICAL DEVELOPMENT : 15: OTHER APPLICATIONS

No	Name of the project and responsible person	Duration (years)	Investment or expenses envisaged during the period 1975/1977 in UC	ACCEPTABILITY :		CAPACITIES OF THOSE RESPONSIBLE		ESSENTIAL MEASURE : Delay in the execution of the work if support is not granted				IMPORTANCE FOR THE COMMUNITY :						APPRECIATION OF THE TECHNICAL RISKS			APPRECIATION OF THE SITUATION			DEGREE OF INNOVATION in relation to the state of existing technology :					POSSIBILITY OF COOPERATION WITH SIMILAR PROJECTS :	JUSTIFICATION OF MEANS ENVISAGED		OTHER OBSERVATIONS	CONCLUSIONS
				Does the project have a technological development aspect ?	Is the natural or legal person who is responsible for the project constituted according to the provisions of Article 3 of regulation 3056/73.	Financial	Technical	Less than one year	Between one and five years	More than five years	Project abandonned	Additional production to 1985 oil/gas in t.e.p.	Additional production to 1995 oil/gas in t.e.p.	Acceleration of production : Less than five years	Acceleration of production : Between five and ten years	Acceleration of production : More than ten years	Elimination of bottlenecks	Great	Average	Small	Technical : Insufficient equipment and/or existing techniques	Economic : Number and/or extent of possible applications : In the Community	Economic : Number and/or extent of possible applications : In the world	Corresponding to the state of the art	Improvement by stages	Complete innovation	Risks of duplication of effort : With other existing techniques	Risks of duplication of effort : With techniques under development		Relation between means envisaged and foreseeable results : Suitable	Relation between means envisaged and foreseeable results : Not Justifiable		
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	Hydrocarbons production by anaerobic digestion of animal wastes LOUGH EGISH COOP SOCIETY	2	156,000	no																				x								Feasibility study on calculation of profitibility and adoption of proven techniques	Project unconnected with oil or gas technology. Installations exist already either on farms 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
15.03	Technological assessment of North Sea development TNO	2	97,000	no	yes	yes	yes																									Limited to collection of basic information	Project not receivable Proposition: not to be supported