

**CONFORMED COPY**

**LOAN NUMBER 7172-CH**

# **Loan Agreement**

**(Science for the Knowledge Economy Project)**

**between**

**REPUBLIC OF CHILE**

**and**

**INTERNATIONAL BANK FOR RECONSTRUCTION  
AND DEVELOPMENT**

**Dated August 5, 2003**

**LOAN NUMBER 7172-CH**

**LOAN AGREEMENT**

AGREEMENT, dated August 5, 2003, between the REPUBLIC OF CHILE (the Borrower) and INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT (the Bank).

WHEREAS (A) the Bank has received: (i) letters from the Borrower dated March 31, 2003 and April 3, 2003 describing a program designed to improve the Borrower's science and technology sector (the Program); and (ii) a letter from *Comisión Nacional de Investigación Científica y Tecnológica*, the Borrower's Commission for Scientific and Technological Research (CONICYT), dated April 3, 2003, both declaring the Borrower's and CONICYT's commitment to the execution of such program;

(B) the Borrower has requested that the Bank support the Borrower's execution of the Program through two loans over a period of approximately six years to be utilized by the Borrower and CONICYT in the implementation of the Program;

(C) the Project will be carried out by CONICYT with the Borrower's assistance and, as part of such assistance, the Borrower will make the proceeds of the loan provided for in Article II of this Agreement (the Loan) available to CONICYT, as set forth in this Agreement;

WHEREAS the Bank has agreed, on the basis, *inter alia*, of the foregoing, to extend the Loan to the Borrower, in support of the first phase of the Program, upon the terms and conditions set forth in this Agreement; and

NOW THEREFORE the parties hereto hereby agree as follows:

**ARTICLE I**

**General Conditions; Definitions**

Section 1.01. The "General Conditions Applicable to Loan and Guarantee Agreements for Fixed-Spread Loans" of the Bank dated September 1, 1999 with the modifications set forth below (the General Conditions), constitute an integral part of this Agreement:

Paragraph (c) of Section 9.07 of the General Conditions is modified to read as follows:

“(c) Not later than six months before the Closing Date or such later date as may be agreed for this purpose between the Borrower and the Bank, the Borrower shall prepare and furnish to the Bank a report, of such scope and in such detail as the Bank shall reasonably request, on the execution and initial operation of the Project, its cost and the benefits derived and to be derived from it, the performance by the Borrower and the Bank of their respective obligations under the Loan Agreement and the accomplishment of the purposes of the Loan.”

Section 1.02. Unless the context otherwise requires, the several terms defined in the Preamble to this Agreement and in the General Conditions have the respective meanings therein set forth and the following additional terms have the following meanings:

(a) “Advisory Board” means the board referred to in Section 3.01 (b) (ii) of this Agreement;

(b) “Beneficiary” means any beneficiary which is selected pursuant to the criteria set forth in the Operational Manual to receive a grant from a Competitive Fund;

(c) “Competitive Fund” means any of the funds referred to in Parts B.1 and C of the Project;

(d) “CONICYT” means *Comisión Nacional de Investigación Científica y Tecnológica*, the Borrower’s science and technology commission established pursuant to Law No. 16746 published in the Borrower’s Official Gazette (*Diario Oficial*) on February 14, 1968;

(e) “CONICYT Agreement” means the Agreement referred to in Section 3.01 (c) of this Agreement;

(f) “Cooperative Research Consortia Subproject” means a scientific research project to be carried out by: (i) an association or group of researchers from universities and/or laboratories and industry; (ii) researchers engaged by regional development agencies; or (iii) any other cooperative research association as the Bank shall agree, which project is eligible for financing by a Competitive Fund in accordance with the criteria set forth in the Operational Manual;

(g) “Doctoral Studies” means studies in a highly qualified research institution, undertaken by a doctoral student with a scholarship financed by the Competitive Fund in accordance with the criteria set forth in the Operational Manual;

(h) “Fiscal Year” means the Borrower’s fiscal year which commences January 1;

(i) “FMR” means each report prepared in accordance with Section 4.02 of this Agreement;

(j) “Grant” means any grant provided by the Competitive Fund;

(k) “Grant Agreement” means any of the agreements referred to in Section 3.01 (d) of this agreement;

(l) “Institution of Excellence Research Subproject” means a scientific research and/or advanced training project to be carried out by a university, science and/or technology institute or other legal entity engaged in scientific research during a term of five to ten years, which project is eligible for financing by the Competitive Fund in accordance with the criteria set forth in the Operational Manual;

(m) “International Cooperative Research Subproject” means a project for international scientific research and/or advanced training to be carried out by researchers from universities or other institutions in the Borrower’s territory who wish to pursue research with institutions abroad under cooperative arrangements of the Borrower or CONICYT, which project is eligible for financing by a Competitive Fund in accordance with the criteria set forth in the Operational Manual;

(n) “OECD Committee” means the science, technology and innovation committee of the Organization for Economic Cooperation and Development (OECD);

(o) “Operational Manual” means the manual referred to in Section 3.03 of this Agreement;

(p) “PCT” means the Project coordination team referred to in Section 3.01 (b) (i) of this Agreement;

(q) “Performance Indicators” means the indicators set forth in a letter from CONICYT to the Bank dated April 3, 2003;

(r) “Research Equipment Subproject” means a project for the acquisition of state-of-the-art scientific equipment to be carried out by universities, laboratories and/or research centers, which project is eligible for financing by a Competitive Fund in accordance with the criteria set forth in the Operational Manual;

(s) “Researcher-in-Industry Subproject” means a scientific research and/or advanced training project to be carried out by researchers who wish to conduct research in industry, which project is eligible for financing by a Competitive Fund in accordance with the criteria set forth in the Operational Manual;

(t) “Research Team Subproject” means: (i) a scientific research project or (ii) a research project in social science that is relevant to enhancing the contribution of science and technology to the Borrower’s economy, both to be carried out by a university, science and/or technology institute or other legal entity through a group of scientists of such entities engaged in scientific or social research, which project is eligible for financing by a Competitive Fund in accordance with the criteria set forth in the Operational Manual;

(u) “Special Account” means the account referred to in Section 2.02 (b) of this Agreement; and

(v) “Subproject” means any Institution of Excellence Research Subproject, Research Team Subproject, Research Equipment Subproject, International Cooperative Research Subproject, Researcher-in-Industry Subproject, Cooperative Research Consortia Subproject and Doctoral Studies.

Section 1.03. Each reference in the General Conditions to the Project implementation entity shall be deemed as a reference to CONICYT.

## **ARTICLE II**

### **The Loan**

Section 2.01. The Bank agrees to lend to the Borrower, on the terms and conditions set forth or referred to in this Agreement, an amount equal to twenty five million two hundred and sixty thousand Dollars (\$25,260,000), as such amount may be converted from time to time through a Currency Conversion in accordance with the provisions of Section 2.09 of this Agreement.

Section 2.02. (a) The amount of the Loan may be withdrawn from the Loan Account in accordance with the provisions of Schedule 1 to this Agreement for

expenditures made (or, if the Bank shall so agree, to be made) in respect of the reasonable cost of goods, works and services required for the Project and to be financed out of the proceeds of the Loan and in respect of charges in respect of the Loan, the front-end fee referred to in Section 2.04 of this Agreement and any premium in respect of an Interest Rate Cap or Interest Rate Collar payable by the Borrower in accordance with Section 4.04 (c) of the General Conditions.

(b) The Borrower may, for purposes of the Project, open and maintain in Dollars a separate special deposit account in its Central Bank, or a commercial bank acceptable to the Bank, on terms and conditions satisfactory to the Bank, including in the event it is opened in a commercial bank, appropriate protection against set-off, seizure and attachment. Deposits into, and payments out of, the Special Account shall be made in accordance with the provisions of Schedule 5 to this Agreement.

Section 2.03. The Closing Date shall be March 31, 2007 or such later date as the Bank shall establish. The Bank shall promptly notify the Borrower of such later date.

Section 2.04. The Borrower shall pay to the Bank a front-end fee in an amount equal to \$252,600. The Borrower agrees that on or promptly after the Effective Date, the Bank shall, on behalf of the Borrower, withdraw from the Loan Account and pay to itself the amount of such fee.

Section 2.05. The Borrower shall pay to the Bank a commitment charge on the principal amount of the Loan not withdrawn from time to time, at a rate equal to: (i) eighty five one-hundredths of one per cent (0.85%) per annum from the date on which such charge commences to accrue in accordance with the provisions of Section 3.02 of the General Conditions to but not including the fourth anniversary of such date; and (ii) seventy five one-hundredths of one per cent (0.75%) per annum thereafter.

Section 2.06. The Borrower shall pay interest on the principal amount of the Loan withdrawn and outstanding from time to time, in respect of each Interest Period at the Variable Rate; provided, that upon a Conversion of all or any portion of the principal amount of the Loan, the Borrower shall, during the Conversion Period, pay interest on such amount in accordance with the relevant provisions of Article IV of the General Conditions.

Section 2.07. Interest and other charges shall be payable semiannually in arrears on January 15 and July 15 in each year.

Section 2.08. The Borrower shall repay the principal amount of the Loan in accordance with the provisions of Schedule 3 to this Agreement.

Section 2.09. (a) The Borrower may at any time request any of the following Conversions of the terms of the Loan in order to facilitate prudent debt management:

- (i) a change of the Loan Currency of all or any portion of the principal amount of the Loan, withdrawn or unwithdrawn, to an Approved Currency;
- (ii) a change of the interest rate basis applicable to all or any portion of the principal amount of the Loan from a Variable Rate to a Fixed Rate, or vice versa; and
- (iii) the setting of limits on the Variable Rate applicable to all or any portion of the principal amount of the Loan withdrawn and outstanding by the establishment of an Interest Rate Cap or Interest Rate Collar on said Variable Rate.

(b) Any conversion requested pursuant to paragraph (a) of this Section that is accepted by the Bank shall be considered a “Conversion”, as defined in Section 2.01(7) of the General Conditions, and shall be effected in accordance with the provisions of Article IV of the General Conditions and of the Conversion Guidelines.

### **ARTICLE III**

#### **Execution of the Project**

Section 3.01. (a) The Borrower declares its commitment to the objective of the Project and, to this end, shall, with the guidance of the Advisory Board cause CONICYT to carry out the Project, all with due diligence and efficiency and in conformity with appropriate scientific, technological, economic, administrative, financial, and environmental practices, and shall provide, and/or cause CONICYT to provide promptly as needed, the funds, facilities, services and other resources required for the Project.

(b) The Borrower shall, during the implementation of the Project: (i) cause CONICYT to maintain a Project coordination team (PCT) with functions and responsibilities satisfactory to the Bank, at all times headed by a Project coordinator and assisted by staff in adequate numbers, all with qualifications and experience acceptable to the Bank; and (ii) maintain, and cause CONICYT to maintain, an advisory board to provide overall guidance for the implementation of the Project, with composition and functions satisfactory to the Bank, including in its composition, *inter alia*, representatives from the Borrower’s ministries and agencies and the productive sector, and leaders from academia and research institutions.

(c) The Borrower shall make the proceeds of the Loan available to CONICYT under an agreement to be entered into between the Borrower, through its Ministry of Finance, and CONICYT, under terms and conditions which shall have been approved by the Bank, which shall include, *inter alia*, CONICYT's obligations to carry out the Project in accordance with the provisions of this Agreement.

(d) The Borrower shall cause CONICYT to enter into agreements, with each Beneficiary, under terms and conditions substantially similar to those of the model form contained in the Operational Manual (the Grant Agreements), such agreements to provide for:

- (i) the transfer by CONICYT to such Beneficiary, on a grant basis, of the funds required by such Beneficiary to carry out a Subproject; and
  - (ii) the obligation of such Beneficiary to carry out such Subproject as provided in the Operational Manual.
- (e)
- (i) The Borrower shall exercise its rights and carry out its obligations under the CONICYT Agreement in such manner as to protect the interests of the Borrower and the Bank and to accomplish the purposes of the Loan, and, except as the Bank shall otherwise agree, the Borrower shall not assign, amend, abrogate, suspend, waive, terminate or fail to enforce the CONICYT Agreement or any provision thereof.
  - (ii) The Borrower shall cause CONICYT: (A) to exercise its rights and carry out its obligations under each Grant Agreement, in such manner as to protect the interests of the Borrower and the Bank and to accomplish the purposes of the Loan; and (B) except as the Bank shall otherwise agree, not to assign, amend, abrogate, suspend, waive, terminate or fail to enforce any Grant Agreement or any provision thereof.

Section 3.02. Except as the Bank shall otherwise agree, procurement of the goods, works and consultants' services required for the Project and to be financed out of the proceeds of the Loan shall be governed by the provisions of Schedule 4 to this Agreement.

Section 3.03. The Borrower shall cause CONICYT to carry out the Project in accordance with an operational manual, satisfactory to the Bank, said manual to include, *inter alia*:



(a) the procedures for the carrying out, monitoring and evaluation of the Project (including the procurement, financial and environmental requirements thereof);

(b) the criteria for the approval, implementation and monitoring of Subprojects;

(c) the criteria for eligibility of Beneficiaries; and

(d) a model agreement for implementation of Subprojects.

In case of any conflict between the terms of the Operational Manual and those of this Agreement, the terms of this Agreement shall prevail.

Section 3.04. The Borrower shall cause CONICYT:

(a) to maintain policies and procedures adequate to enable it to monitor and evaluate on an ongoing basis, in accordance with the Performance Indicators, the carrying out of the Project and the achievement of the objectives thereof;

(b) to prepare, under terms of reference satisfactory to the Bank, and furnish to the Bank, not later than twelve months after the Effective Date and yearly thereafter during the period of Project implementation, a report integrating the results of the evaluation activities performed pursuant to paragraph (a) of this Section, on the progress achieved in the carrying out of the Project during the period preceding the date of such report and setting out the measures recommended to ensure the efficient carrying out of the Project and the achievement of the objectives thereof during the period following such date; and

(c) (i) to review with the Bank, within no more than two months after each such report's preparation, the reports referred to in paragraph (b) of this Section; and

(ii) thereafter, to take all measures required to ensure the efficient completion of the Project and the achievement of the objectives thereof, based on the conclusions and recommendations of the said reports and the Bank's views on the matter.

Section 3.05. For the purposes of Section 9.07 of the General Conditions and without limitation thereto, the Borrower shall, and shall cause CONICYT:

(a) to prepare, on the basis of guidelines acceptable to the Bank, and furnish to the Bank not later than six (6) months before the Closing Date or such later date as may be agreed for this purpose between the Borrower and the Bank, a plan for the future operation of the Project; and

(b) to afford the Bank a reasonable opportunity to exchange views with the Borrower on said plan.

#### **ARTICLE IV**

##### **Financial Covenants**

Section 4.01. (a) The Borrower shall cause CONICYT to maintain a financial management system, including records and accounts, and prepare financial statements, all in accordance with accounting standards acceptable to the Bank, consistently applied, adequate to reflect its operations and financial condition and to register separately the operations, resources and expenditures related to the Project.

(b) The Borrower shall cause CONICYT:

- (i) to have its records, accounts and financial statements (balance sheets, statements of income and expenses and related statements) for each fiscal year audited, in accordance with auditing standards acceptable to the Bank, consistently applied, by independent auditors acceptable to the Bank;
- (ii) to furnish to the Bank as soon as available, but in any case not later than six months after the end of each such year, (A) certified copies of the financial statements referred to in paragraph (a) of this Section for such year as so audited, and (B) an opinion on such statements and report of such audit, by said auditors, of such scope and in such detail as the Bank shall have reasonably requested; and
- (iii) to furnish to the Bank such other information concerning such records, accounts and financial statements, and the audit thereof, and concerning said auditors, as the Bank may from time to time reasonably request.

(c) For all expenditures with respect to which withdrawals from the Loan Account were made on the basis of statements of expenditure, the Borrower shall cause CONICYT to:

- (i) maintain or cause to maintain in accordance with sound accounting practices, records and separate accounts reflecting such expenditures;
- (ii) ensure that all records (contracts, orders, invoices, bills, receipts and other documents) evidencing such expenditures are retained until at least one year after the Bank has received the audit report for the fiscal year in which the last withdrawal from the Loan Account was made; and
- (iii) enable the Bank's representatives to examine such records.

(d) The Borrower shall cause CONICYT to:

- (i) have the records and accounts referred to in paragraph (c)(i) of this Section and those for the Special Account for each fiscal year audited, in accordance with appropriate auditing principles consistently applied, by independent auditors acceptable to the Bank;
- (ii) furnish to the Bank as soon as available, but in any case not later than six months after the end of each such year the report of such audit by said auditors, of such scope and in such detail as the Bank shall have reasonably requested, including a separate opinion by said auditors as to whether the statements of expenditure submitted during such fiscal year, together with the procedures and internal controls involved in their preparation, can be relied upon to support the related withdrawals; and
- (iii) furnish to the Bank such other information concerning said records and accounts and the audit thereof as the Bank shall from time to time reasonably request.

Section 4.02. (a) Without limitation upon the Borrower's progress reporting obligations set out in Section 3.04 of this Agreement, the Borrower shall cause CONICYT to prepare and furnish to the Bank a financial monitoring report, in form and substance satisfactory to the Bank, which:

- (i) sets forth sources and uses of funds for the Project, both cumulatively and for the period covered by said report, showing separately funds provided under the Loan and explains variances between the actual and planned uses of such funds;
- (ii) describes physical progress in Project implementation, both cumulatively and for the period covered by said report, and explains variances between the actual and planned Project implementation; and
- (iii) sets forth the status of procurement under the Project, as at the end of the period covered by said report.

(b) The first FMR shall be furnished to the Bank not later than 45 days after the end of the first calendar quarter after the Effective Date, and shall cover the period from the incurrence of the first expenditure under the Project through the end of such first calendar quarter; thereafter, each FMR shall be furnished to the Bank not later than 45 days after each subsequent calendar quarter, and shall cover such calendar quarter.

## **ARTICLE V**

### **Remedies of the Bank**

Section 5.01. Pursuant to Section 6.02 (p) of the General Conditions, the following additional event is specified, namely, that CONICYT shall have failed to perform any of its obligations under the CONICYT Agreement.

## **ARTICLE VI**

### **Effective Date; Termination**

Section 6.01. The following events are specified as additional conditions to the effectiveness of the Loan Agreement within the meaning of Section 12.01 (c) of the General Conditions:

- (a) CONICYT has adopted the Operational Manual;
- (b) the Borrower has issued a decree, in form and substance satisfactory to the Bank, establishing the Advisory Board; and

(c) the CONICYT Agreement has been executed on behalf of the parties thereto.

Section 6.02. The following is specified as an additional matter, within the meaning of Section 12.02 (c) of the General Conditions, to be included in the opinion or opinions to be furnished to the Bank, namely, that the CONICYT Agreement has been duly authorized and ratified by the parties thereto, and is legally binding upon such parties, in accordance with its terms.

Section 6.03. The date November 3, 2003 is hereby specified for the purposes of Section 12.04 of the General Conditions.

## **ARTICLE VII**

### **Representative of the Borrower; Addresses**

Section 7.01. The Minister of Finance of the Borrower is designated as representative of the Borrower for the purposes of Section 11.03 of the General Conditions.

Section 7.02. The following addresses are specified for the purposes of Section 11.01 of the General Conditions:

For the Borrower:

Ministry of Finance  
Teatinos 120  
Santiago, Chile

Facsimile: (56-2) 698-8903

For the Bank:

International Bank for  
Reconstruction and Development  
1818 H Street, N.W.  
Washington, D.C. 20433  
United States of America

Cable address:

INTBAFRAD  
Washington, D.C.

Telex:

248423 (MCI) or  
64145 (MCI)

Facsimile:

(202) 477-6391

IN WITNESS WHEREOF, the parties hereto, acting through their duly authorized representatives, have caused this Agreement to be signed in their respective names in Santiago de Chile, as of the day and year first above written.

REPUBLIC OF CHILE

By /s/ Nicolás Eyzaguirre  
Authorized Representative

INTERNATIONAL BANK FOR  
RECONSTRUCTION AND DEVELOPMENT

By /s/ Axel van Trotsenburg  
Acting Regional Vice President  
Latin America and the Caribbean

Countersigned on behalf of the  
Treasurer General of the Republic of Chile

By: /s/ Gianni Lambertini Maldonado  
Authorized Representative

Countersigned on behalf of the  
Controller General of the Republic of Chile

By: /s/ Noemí Rojas Llanos  
Authorized Representative

**SCHEDULE 1**

**Withdrawal of the Proceeds of the Loan**

The table below sets forth the Categories of items to be financed out of the proceeds of the Loan, the allocation of the amounts of the Loan to each Category and the percentage of expenditures for items so to be financed in each Category:

<u>Category</u>	<u>Amount of the Loan Allocated (Expressed in Dollars)</u>	<u>% of Expenditures to be Financed</u>
(1) Goods	350,000	100% of foreign expenditures, 100% of local expenditures (ex-factory cost) and 84% of local expenditures for other items procured locally
(2) Consultants' services and Training	1,460,000	95%
(3) Grants	20,810,000	55% of the cost of Doctoral Studies and of goods, works and services for Subprojects financed by a Grant
(4) Operational Costs	930,000	70% of expenditures made until twelve months after the Effective Date and not exceeding in the aggregate \$800,000; and 30% thereafter
(5) Unallocated	1,457,400	
(6) Front End Fee	252,600	Amount due under Section 2.04 of this Agreement



<u>Category</u>	<u>Amount of the Loan Allocated (Expressed in Dollars)</u>	<u>% of Expenditures to be Financed</u>
(7) Premia for Interest Rate Caps and Interest Rate Collars	0	Amount due under Section 2.09 (d) of this Agreement
TOTAL	<u>25,260,000</u>	

2. For the purposes of this Schedule:

(a) the term “foreign expenditures” means expenditures in the currency of any country other than that of the Borrower for goods or services supplied from the territory of any country other than that of the Borrower;

(b) the term “local expenditures” means expenditures in the currency of the Borrower or for goods or services supplied from the territory of the Borrower;

(c) the term “operational costs” means the reasonable costs incurred: (i) by the PCT for utilities, maintenance and consumable office supplies; (ii) by PCT members or staff of CONICYT for travel to participate in international events; and (iii) for the functioning of the Advisory Board (including travel by its members), that would not have been incurred absent the Project; and

(d) the term “training” means the reasonable costs of: (i) travel, room, board and per diem incurred by trainees in connection with their training; and (ii) the course fees charged by academic or other institutions.

3. Notwithstanding the provisions of paragraph 1 above, no withdrawals shall be made in respect of:

(a) payments made for expenditures prior to the date of this Agreement except that withdrawals, in an aggregate amount not exceeding \$250,000 may be made on account of payments made for expenditures twelve months before that date but after March 14, 2003.

(b) payments covered by Category (3) set forth in the table in paragraph 1 of this Schedule, unless the respective Grant Agreement has been entered into by the parties thereto.

4. The Bank may require withdrawals from the Loan Account to be made on the basis of statements of expenditure for expenditures, all under such terms and conditions as the Bank shall specify by notice to the Borrower:

- (a) for goods under contracts not exceeding \$350,000 equivalent per contract;
- (b) for services of consulting firms under contracts not exceeding \$100,000 equivalent per contract;
- (c) for services of individual consultants under contracts not exceeding \$50,000 equivalent per contract;
- (d) for operational costs and training; and
- (e) for Grants after the first two Grants for each type of Subprojects have been approved by the Bank.

## SCHEDULE 2

### Description of the Project

The objective of the Project is to improve: (a) the effectiveness of the Borrower's innovation system; and (b) the stock of human capital in the Borrower's science and technology sector.

The Project consists of the following parts, subject to such modifications thereof as the Borrower and the Bank may agree upon from time to time to achieve such objectives:

#### Part A: Improving Science, Technology and Innovation

1. (a) Development of a coherent policy framework for expanding human capital and research capacity in science and technology, and fostering a culture of innovation among scientific researchers in Chile.

(b) Carrying out of stakeholder consultations and deliberations on the policy framework developed in Part A.1 (a) above.

(c) Strengthening of the Borrower's exposure to innovation systems abroad, and its access to best practice in the area of science, technology and innovation through participation in the OECD Committee.

(d) Development of instruments and procedures as needed to implement the policy framework referred in Part A.1 (a) above, such as, *inter alia*, those for a revised intellectual property rights system, removal of administrative barriers for business registration, promotion of knowledge-intensive foreign direct investment, and fiscal incentives for private sector research and development.

(e) Carrying out of a program to raise the awareness in Chile of science and technology.

2. Strengthening of the monitoring and evaluation capacity of CONICYT, and dissemination among the Borrower's agencies and key stakeholders of the data gathered during Project monitoring and evaluation, to facilitate informed policy discussion and decision-making by such agencies and the general public.

3. Operation of the PCT and the Advisory Board.

Part B: Strengthening the Borrower's Science Base

1. Operation of the following competitive funds:
  - (a) A competitive fund for the provision of grants for Institution of Excellence Research Subprojects and Research Team Subprojects.
  - (b) A competitive fund for the provision of grants for Doctoral Studies.
  - (c) A competitive fund for the provision of grants for Research Equipment Subprojects.
2. Development of a database of the advanced research equipment available in Chile.

Part C: Enhancing Linkages and Innovation

Operation of the following competitive funds:

1. A competitive fund for the provision of grants for Cooperative Research Consortia Subprojects.
2. A competitive fund for the provision of grants for Researcher-in-Industry Subprojects.
3. A competitive fund for the provision of grants for International Cooperative Research Subprojects.

\* \* \*

The Project is expected to be completed by September 30, 2006.

### SCHEDULE 3

#### Amortization Schedule

1. The following table sets forth the Principal Payment Dates of the Loan and the percentage of the total principal amount of the Loan payable on each Principal Payment Date (Installment Share). If the proceeds of the Loan shall have been fully withdrawn as of the first Principal Payment Date, the principal amount of the Loan repayable by the Borrower on each Principal Payment Date shall be determined by the Bank by multiplying: (a) the total principal amount of the Loan withdrawn and outstanding as of the first Principal Payment Date; by (b) the Installment Share for each Principal Payment Date, such repayment amount to be adjusted, as necessary, to deduct any amounts referred to in paragraph 4 of this Schedule, to which a Currency Conversion applies.

<u>Payment Date</u>	<u>Installment Share (Expressed as a %)</u>
On each January 15 and July 15 Beginning January 15, 2009 through July 15, 2012	12.5%

2. If the proceeds of the Loan shall not have been fully withdrawn as of the first Principal Payment Date, the principal amount of the Loan repayable by the Borrower on each Principal Payment Date shall be determined as follows:

(a) To the extent that any proceeds of the Loan shall have been withdrawn as of the first Principal Payment Date, the Borrower shall repay the amount withdrawn and outstanding as of such date in accordance with paragraph 1 of this Schedule.

(b) Any withdrawal made after the first Principal Payment Date shall be repaid on each Principal Payment Date falling after the date of such withdrawal in amounts determined by the Bank by multiplying the amount of each such withdrawal by a fraction, the numerator of which shall be the original Installment Share specified in the table in paragraph 1 of this Schedule for said Principal Payment Date (the Original Installment Share) and the denominator of which shall be the sum of all remaining Original Installment Shares for Principal Payment Dates falling on or after such date, such repayment amounts to be adjusted, as necessary, to deduct any amounts referred to in paragraph 4 of this Schedule, to which a Currency Conversion applies.

3. (a) Withdrawals made within two calendar months prior to any Principal Payment Date shall, for the purposes solely of calculating the principal amounts payable on any Principal Payment Date, be treated as withdrawn and outstanding on the second

Principal Payment Date following the date of withdrawal and shall be repayable on each Principal Payment Date commencing with the second Principal Payment Date following the date of withdrawal.

(b) Notwithstanding the provisions of subparagraph (a) of this paragraph 3, if at any time the Bank shall adopt a due date billing system under which invoices are issued on or after the respective Principal Payment Date, the provisions of such subparagraph shall no longer apply to any withdrawals made after the adoption of such billing system.

4. Notwithstanding the provisions of paragraphs 1 and 2 of this Schedule, upon a Currency Conversion of all or any portion of the withdrawn principal amount of the Loan to an Approved Currency, the amount so converted in said Approved Currency that shall be repayable on any Principal Payment Date occurring during the Conversion Period, shall be determined by the Bank by multiplying such amount in its currency of denomination immediately prior to said Conversion by either: (i) the exchange rate that reflects the amounts of principal in said Approved Currency payable by the Bank under the Currency Hedge Transaction relating to said Conversion; or (ii) if the Bank so determines in accordance with the Conversion Guidelines, the exchange rate component of the Screen Rate.

5. If the principal amount of the Loan withdrawn and outstanding from time to time shall be denominated in more than one Loan Currency, the provisions of this Schedule shall apply separately to the amount denominated in each Loan Currency, so as to produce a separate amortization schedule for each such amount.

## **SCHEDULE 4**

### **Procurement**

#### Section I. Procurement of Goods and Works

##### Part A: General

Goods and works shall be procured in accordance with the provisions of Section I of the "Guidelines for Procurement under IBRD Loans and IDA Credits" published by the Bank in January 1995 and revised in January and August 1996, September 1997 and January 1999 (the Guidelines) and the following provisions of Section I of this Schedule.

##### Part B: International Competitive Bidding

1. Except as otherwise provided in Part C of this Section, goods shall be procured under contracts awarded in accordance with the provisions of Section II of the Guidelines and paragraph 5 of Appendix 1 thereto.

2. The following provisions shall apply to goods to be procured under contracts awarded in accordance with the provisions of paragraph 1 of this Part B.

(a) Grouping of Contracts

To the extent practicable, contracts for goods shall be grouped in bid packages estimated to cost \$350,000 equivalent or more each.

(b) Preference for Domestically Manufactured Goods

The provisions of paragraphs 2.54 and 2.55 of the Guidelines and Appendix 2 thereto shall apply to goods manufactured in the territory of the Guarantor.

##### Part C: Other Procurement Procedures

##### 1. National Competitive Bidding

- (a) (i) Goods estimated to cost less than \$350,000 equivalent per contract, up to an aggregate amount of \$130,000 equivalent (excluding goods under Subprojects), may; and

- (ii) except as provided in Part C.3 hereof, works for subprojects shall,

be procured under contracts awarded in accordance with the provisions of paragraphs 3.3 and 3.4 of the Guidelines.

(b) In the procurement of goods and works under this Part C.1, bidding documents in a standardized form for the Project shall be used. Without limitation to any other provisions set forth in this Schedule or the Guidelines, the following shall apply to the procurement of goods and works to be undertaken pursuant to this Part C.1:

- (i) All documents pertaining to a bid shall be submitted at the same time. Bidders shall not be required to submit bid securities or other documents in advance and separately from their bids.
- (ii) Contracts shall be awarded to the bidder who meets the appropriate standards of capability and resources and whose bid has been determined: (A) to be substantially responsive to the bidding documents, and (B) to offer the lowest evaluated cost.
- (iii) Foreign contractors or suppliers shall not be required to have a representative in Chile as a condition for bidding.

2. International or National Shopping

Goods estimated to cost less than \$100,000 equivalent per contract, up to an aggregate amount not to exceed \$100,000 equivalent (excluding goods for Subprojects), may be procured under contracts awarded on the basis of international/national shopping procedures in accordance with the provisions of paragraphs 3.5 and 3.6 of the Guidelines.

3. Procurement of Small Works

Works for Subprojects estimated to cost less than \$350,000 equivalent per contract, may be procured under lump-sum, fixed-price contracts awarded on the basis of quotations obtained from three (3) qualified domestic contractors in response to a written invitation. The invitation shall include a detailed description of the works, including basic specifications, the required completion date, a basic form of agreement acceptable to the Bank, and relevant drawings, where applicable. The award shall be made to the contractor who offers the lowest price quotation for the required work, and who has the experience and resources to complete the contract successfully.



Part D: Review by the Bank of Procurement Decisions

1. Procurement Planning

Prior to the issuance of any invitations to bid for contracts, the proposed procurement plan for the Project shall be furnished to the Bank for its review and approval, in accordance with the provisions of paragraph 1 of Appendix 1 to the Guidelines. Procurement of all goods and works shall be undertaken in accordance with such procurement plan as shall have been approved by the Bank, and with the provisions of said paragraph 1.

2. Prior Review

With respect to:

(a) each contract for goods procured under Part B.1 of this Section; and

(b) the first two contracts for goods, and the first two contracts for works procured under Parts C.1, C.2 and C.3 of this Section, the procedures set forth in paragraphs 2 and 3 of Appendix 1 to the Guidelines shall apply.

3. Post Review

With respect to each contract not governed by paragraph 2 of this Part, the procedures set forth in paragraph 4 of Appendix 1 to the Guidelines shall apply.

Section II. Employment of Consultants

Part A: General

(a) Consultants' services shall be procured in accordance with the provisions of Sections I and IV of the "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" published by the Bank in January 1997 and revised in September 1997, January 1999 and May 2002 (the Consultant Guidelines), paragraph 1 of Appendix 1 thereto, Appendix 2 thereto and the following provisions of Section II of this Schedule.

(b) In the procurement of consultants' services, without any limitation to other provisions set forth in this Schedule or the Guidelines, the following shall apply:

- (i) Foreign consultants shall not be required to have a representative in Chile as a condition of participation in the selection process.
- (ii) CONICYT and the Beneficiaries shall publicly advertise requests of expressions of interest as the basis for developing short list of firms.

Part B: Quality- and Cost-based Selection

1. Except as otherwise provided in Part C of this Section, consultants' services shall be procured under contracts awarded in accordance with the provisions of Section II of the Consultant Guidelines, and the provisions of paragraphs 3.13 through 3.18 thereof applicable to quality- and cost-based selection of consultants.

2. The following provision shall apply to consultants' services to be procured under contracts awarded in accordance with the provisions of the preceding paragraph: the short list of consultants, estimated to cost less than \$500,000 equivalent per contract, may comprise entirely national consultants in accordance with the provisions of paragraph 2.7 and footnote 8 of the Consultant Guidelines.

Part C: Other Procedures for the Selection of Consultants

1. Least-cost Selection

Services for studies under Parts A and B.2 of the Project estimated to cost less than \$100,000 equivalent per contract may be procured under contracts awarded in accordance with the provisions of paragraphs 3.1 and 3.6 of the Consultant Guidelines.

2. Individual Consultants

Services of individual consultants for tasks that meet the requirements set forth in paragraph 5.1 of the Consultant Guidelines and not exceeding in the aggregate the equivalent of \$750,000 shall be procured under contracts awarded in accordance with the provisions of paragraphs 5.1 through 5.3 of the Consultant Guidelines.

Part D: Review by the Bank of the Selection of Consultants

1. Selection Planning

A plan for the selection of consultants, which shall include contract cost estimates, contract packaging, and applicable selection criteria and procedures, shall be furnished to the Bank for its review and approval prior to the issuance to consultants of any requests for proposals. Such plan shall be updated every six months during the execution of the Project, and each such updating shall be furnished to the Bank for its review and approval. Selection of all consultants' services shall be undertaken in accordance with such selection plan (as updated from time to time) as shall have been approved by the Bank.

2. Prior Review

(a) With respect to each contract for the employment of consulting firms estimated to cost the equivalent of \$100,000 or more, the procedures set forth in paragraphs 2, 3 and 5 of Appendix 1 to the Consultant Guidelines shall apply.

(b) With respect to each contract for the employment of individual consultants estimated to cost the equivalent of \$50,000 or more, the report on the comparison of the qualifications and experience of candidates, the qualifications, experience terms of reference and terms of employment of the consultants shall be furnished to the Bank for its prior review and approval. The contract shall be awarded only after the said approval shall have been given. The provisions of paragraph 3 of Appendix 1 to the Consultant Guidelines shall also apply to such contracts.

3. Post Review

With respect to each contract not governed by paragraph 2 of this Part, the procedures set forth in paragraph 4 of Appendix 1 to the Consultant Guidelines shall apply.

## **SCHEDULE 5**

### **Special Account**

1. For the purposes of this Schedule:
  - (a) the term “eligible Categories” means Categories (1) through (4) set forth in the table in paragraph 1 of Schedule 1 to this Agreement;
  - (b) the term “eligible expenditures” means expenditures in respect of the reasonable cost of goods, works and services required for the Project and to be financed out of the proceeds of the Loan allocated from time to time to the eligible Categories in accordance with the provisions of Schedule 1 to this Agreement; and
  - (c) the term “Authorized Allocation” means the amount of \$500,000 to be withdrawn from the Loan Account and deposited into the Special Account pursuant to paragraph 3 (a) of this Schedule.
2. Payments out of the Special Account shall be made exclusively for eligible expenditures in accordance with the provisions of this Schedule.
3. After the Bank has received evidence satisfactory to it that the Special Account has been duly opened, withdrawals of the Authorized Allocation and subsequent withdrawals to replenish the Special Account shall be made as follows:
  - (a) For withdrawals of the Authorized Allocation, the Borrower shall furnish to the Bank a request or requests for deposit into the Special Account of an amount or amounts which do not exceed the aggregate amount of the Authorized Allocation. On the basis of such request or requests, the Bank shall, on behalf of the Borrower, withdraw from the Loan Account and deposit into the Special Account such amount or amounts as the Borrower shall have requested.
  - (b)
    - (i) For replenishment of the Special Account, the Borrower shall furnish to the Bank requests for deposits into the Special Account at such intervals as the Bank shall specify.
    - (ii) Prior to or at the time of each such request, the Borrower shall furnish to the Bank the documents and other evidence required pursuant to paragraph 4 of this Schedule for the payment or payments in respect of which replenishment is requested. On the basis of each such request, the Bank shall, on behalf of the

Borrower, withdraw from the Loan Account and deposit into the Special Account such amount as the Borrower shall have requested and as shall have been shown by said documents and other evidence to have been paid out of the Special Account for eligible expenditures. All such deposits shall be withdrawn by the Bank from the Loan Account under the respective eligible Categories, and in the respective equivalent amounts, as shall have been justified by said documents and other evidence.

4. For each payment made by the Borrower out of the Special Account, the Borrower shall, at such time as the Bank shall reasonably request, furnish to the Bank such documents and other evidence showing that such payment was made exclusively for eligible expenditures.

5. Notwithstanding the provisions of paragraph 3 of this Schedule, the Bank shall not be required to make further deposits into the Special Account:

(a) if, at any time, the Bank shall have determined that all further withdrawals should be made by the Borrower directly from the Loan Account in accordance with the provisions of Article V of the General Conditions and paragraph (a) of Section 2.02 of this Agreement;

(b) if the Borrower shall have failed to furnish to the Bank, within the period of time specified in Section 4.01 (b) (ii) of this Agreement, any of the audit reports required to be furnished to the Bank pursuant to said Section in respect of the audit of the records and accounts for the Special Account;

(c) if, at any time, the Bank shall have notified the Borrower of its intention to suspend in whole or in part the right of the Borrower to make withdrawals from the Loan Account pursuant to the provisions of Section 6.02 of the General Conditions; or

(d) once the total unwithdrawn amount of the Loan allocated to the eligible Categories, minus the total amount of all outstanding special commitments entered into by the Bank pursuant to Section 5.02 of the General Conditions, shall equal the equivalent of twice the amount of the Authorized Allocation.

Thereafter, withdrawal from the Loan Account of the remaining unwithdrawn amount of the Loan allocated to the eligible Categories shall follow such procedures as the Bank shall specify by notice to the Borrower. Such further withdrawals shall be made only after and to the extent that the Bank shall have been satisfied that all such amounts remaining on deposit in the Special Account as of the date of such notice will be utilized in making payments for eligible expenditures.

6. (a) If the Bank shall have determined at any time that any payment out of the Special Account: (i) was made for an expenditure or in an amount not eligible pursuant to paragraph 2 of this Schedule; or (ii) was not justified by the evidence furnished to the Bank, the Borrower shall, promptly upon notice from the Bank: (A) provide such additional evidence as the Bank may request; or (B) deposit into the Special Account (or, if the Bank shall so request, refund to the Bank) an amount equal to the amount of such payment or the portion thereof not so eligible or justified. Unless the Bank shall otherwise agree, no further deposit by the Bank into the Special Account shall be made until the Borrower has provided such evidence or made such deposit or refund, as the case may be.

(b) If the Bank shall have determined at any time that any amount outstanding in the Special Account will not be required to cover further payments for eligible expenditures, the Borrower shall, promptly upon notice from the Bank, refund to the Bank such outstanding amount.

(c) The Borrower may, upon notice to the Bank, refund to the Bank all or any portion of the funds on deposit in the Special Account.

(d) Refunds to the Bank made pursuant to paragraphs 6 (a), (b) and (c) of this Schedule shall be credited to the Loan Account for subsequent withdrawal or for cancellation in accordance with the relevant provisions of this Agreement, including the General Conditions.

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