



EMPRESA MINERA DEL CENTRO DEL PERU

ENVIRONMENTAL MITIGATION AND MANAGEMENT PLAN

PAMA



La Oroya Metallurgical Complex



[REPUBLIC OF PERU]  
**MINISTRY OF ENERGY AND MINES**

REPORT No. 1237-99-EM-DGM-DFM/DFT

**DOE RUN PERU**  
La Oroya Division  
**OCTOBER 20, 1999**  
**ENVIRONMENTAL MATTERS**  
**RECEIVED**

Post-It® Fax Transmission 7671	[illegible] [illegible]
TO: [illegible]	FROM: [illegible]
COMPANY/DEPARTMENT:	COMPANY/DEPARTMENT:
PHONE:	PHONE:
FAX:	FAX:

**DIRECTOR:**

**SUBJECT:** Modification of timeline for PAMA actions and investments.  
COMPANY: **DOE RUN PERU S.R.L.**  
PRODUCTION UNIT: **“LA OROYA”**

**REFERENCE:** Appeal No. 1215214, December 21, 1998  
Report No. 068-99-EM/DGAA/FM, 09/23/1999  
Memo No. 2243-99-EM/DGAA, 04/23/1999

With respect to the subject, I wish to inform you of the following:

By means of the referenced appeal, Doe Run Peru S.R.L., has requested modification of the timeline for activities and investments of the Environmental Mitigation and Management Program (PAMA) of the “La Oroya” production unit.

**BACKGROUND**

The PAMA for the Centromín Perú S.A. “La Oroya” production unit was approved by Resolution No. 017-97-EM/DGM dated January 13, 1997, with an investment of US\$ 129,125,000.00 for an implementation period of 10 (ten) years, amended by Resolution No. 325-97-EM/DGM, October 6 of the same year, in the same period, a total amount of US\$ 131,742,000.00. To effect privatization, the PAMA of this production unit was divided by Board Resolution No. 334-97-EM/DGM, October 16, 1997, between Centromín Perú S.A. in the amount of US\$ 24,167,000.00, for a performance period of 9 (nine) years, and the amount of US\$ 107,575,000.00 for Metaloroya S.A. for a period of ten (10) years. All mining rights of the latter company have been transferred to Doe Run Peru S.R.L.

**EVALUATION**

1.- With Report No. 068-98-EM/DGAA/FM, September 23, 1999, and the referenced Memo, the General Office of Environmental Affairs has issued a positive opinion on approval of the modification of the schedule for PAMA actions and investments of the referenced Doe Run Peru SR L. production unit.



DOE RUN PERU  
La Oroya Division  
Environmental Affairs Office



[REPUBLIC OF PERU]  
**MINISTRY OF ENERGY AND MINES**

**2.-** There have been economic changes at the conclusion of some projects with budgeted amounts for investments due to detailed engineering studies, so the mentioned company referred asked to increase investment in the approved PAMA, which was scheduled to be executed into 2006 with an investment of US\$ 107,575,000.00 (see Table 1) and in the new projection, execution is considered with an investment of US\$ 168,342,000.00 (see Table 2), i.e., an increase of US\$ 60,767,000.00 in the same period, advising that the amount invested in all projects would increase, except the Vado and Malpaso Arsenic Trioxide Deposit (No. 14), where the investment would decrease from US\$ 2,000,000.00 to US\$ 1,858,000.00

**3.-** Empresa Minera del Centro del Perú S.A. was given an authorization permit to operate Huanchán Solid Waste Deposits, made up of copper and lead slag and zinc ferrites, by Executive Order No. 330-97-EM/DGM dated October 9, 1997, granting approval. Doe Run Perú S.R.L. acquired the option from Centromín Perú S.A. to transfer the copper and lead slag deposit for a period of three years, the same as is being exercised according to the proceeding in the ownership file processing dividing of the concession for the purpose of positioning the slag deposit of interest to Doe Run Perú S.R.L. as a new concession to be transferred.

**4.-** Given this, Huanchán Copper and Lead Slag Deposit Project No. 13 can be approved; however, the approval should take effect with proof of ownership of the deposit by Doe Run Perú S.R.L.

Accordingly, the undersigned is of the opinion that modification of the PAMA for a total amount of US\$ 168,342,000.00 should be approved and that therefore Article 2 of Executive Order No. 334-97-EM/DGM dated October 16, 1997, needs to be amended that approved the sum of US\$ 107,575,000.00 to be executed in the same mitigation period. What is indicated in Nos. 3 and 4 of this report needs to be kept in mind.

OCTOBER 18, 1999  
Lima,

[signature]  
JUAN A. PIRILLOS TORRES  
MINING OVERSIGHT DIVISION  
[initials]

Lima, OCTOBER 18, 1999

Being in agreement with the foregoing report, LET IT BE PASSED UPWARD to the General Office of Mining for that office's information and consequent purposes.

[signature]  
César Lavado Huyhua  
Director of Mining Oversight



[REPUBLIC OF PERU]  
**MINISTRY OF ENERGY AND MINES**

Having seen report No. 1237-99-EM-DGM-DFM/DFT, with which this office agrees, LET NOTICE BE GIVEN of the Executive Order amending investment in the PAMA from US\$ 107,575.000.00 to US\$ 169,342,000.00, to be made in the same mitigation period (1997-2006) in the **DOE RUN PERÚ S.R.L.** “**LA OROYA**” Production Unit and TAKE INTO ACCOUNT what is indicated in Numbers 3 and 4 of the preceding report. The matter returns to the Technical Oversight Division.

[signature]  
FERNANDO GALA SOLDEVILLA  
Director General of Mining

[illegible] OROYA [illegible]  
[illegible]



[REPUBLIC OF PERU]

## MINISTRY OF ENERGY AND MINES

*Executive Order* No. 178-99-EM/DGM  
Lima, October 19, 1999

Having seen Report No. 1237-99-EM-DGM-DFM/DFT giving an opinion on modification of the timeline for actions and investments in the Environmental Mitigation and Management Program (PAMA) for the "La Oroya" Production Unit of Doe Run Perú S.R.L. located in the La Oroya District, Yauli Province and Junín Department, and

### WHEREAS

Article 17 of the Regulation for Environmental Protection in Mining and Metallurgical Activity, approved by Supreme Decree No. 016-93-EM states that Environmental Mitigation and Management Programs will be approved or overseen by the General Mining Office, following an opinion from the General Office of Environmental Affairs, and modified by Executive Order, ex officio or upon request of the interested party, substantiated by technical, economic, social, and environmental fundamentals;

Doe Run Perú S.R.L. has acquired the option from Centromín Perú S.A. to transfer the lead and copper slag deposit of the Huanchán Concession for a period of three years, the same as is being exercised according to the proceeding in the ownership file processing the dividing of the aforementioned concession;

With Appeal No. 1215214 of December 21, 1998, Doe Run Perú S.R.L. requested modification of the timeline for activities and investments of the PAMA for the "La Oroya" production unit, which it substantiated before the General Office of Environmental Affairs, earning a favorable opinion according to Report No. 068-99-EM/DGAA/FM dated September 23, 1999, and memorandum No. 2243-99-EM/DGAA;

In accordance with the Regulations approved by Supreme Decree No. 016-93-EM, as amended by Supreme Decree No. 059-93-EM.

### NOW THEREFORE, BE IT RESOLVED:

**Article 1.-** To approve modification of the timeline for actions and investments of the PAMA for the DOE RUN PERÚ S.R.L. "LA OROYA" Production Unit totaling US\$ 168,342,000.00, to be implemented over a period of ten (10) years (1997-2006), as detailed in Tables No. 1 and 2, annexed as part of this resolution;



**Article 2.-** This approval includes Project No. 13 dealing with the Copper and Lead Slag Deposits of the Huanchán Solid Waste Deposit Concession, amounting to US\$ 3,811,000.00 that will go into effect once transfer of the rights to that deposit is recorded in favor of Doe Run Perú S.R.L. is registered; and

**Article 3.-** Repeal part of Article 2 of Executive Order No. 326-97-EM/DGM dated October 16, 1997, approving the total amount of US\$ 107,575,000.00, having been modified, leaving the other provisions in force, in accordance with the Law.

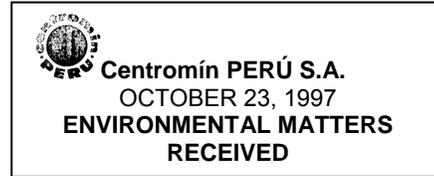
**So let it be recorded and communicated.**

[signature]  
FERNANDO GALA SOLDEVILLA  
Director General of Mining

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[REPUBLIC OF PERU]  
**MINISTRY OF ENERGY AND MINES**



REPORT No. 1047-97EM-DGM-DFM-DFT

TO: Director General of Mining  
 SUBJECT: Division of the PAMA of the La Oroya Metallurgical Complex of Centromin Perú S.A.  
 REFERENCE: Appeal No. 1152485, 09/19/1997  
 Appeal No. 115536510/10/1997  
 Report No. 107-97-EM/DGAA/LC  
 Memo No. 2159-97-EM/DGAA

With respect to the subject, I wish to inform you of the following:

With the referenced report, the General Office of Environmental Affairs has finished evaluating the referenced documents submitted by **CENTROMÍN PERÚ S.A.** asking for **Division of the LA OROYA METALLURGICAL COMPLEX PAMA** for purposes of transfer for sale of that complex, considering it necessary to share the commitments assumed in the Environmental Mitigation and Management Program (PAMA) with **EMPRESA METALOROYA S.A.** The commitments have been divided with the knowledge of the Ministry of Energy and Mines by Appeal No. 1152485; after making the evaluation, the following may be stated:

- The amounts that need to be assumed for **CENTROMÍN PERÚ S.A.** and **METALOROYA S.A.** to meet their PAMA commitments will be the following: **US\$ 24,167, 000 (18.34%)** for **CENTROMÍN PERÚ S.A.** and **US\$ 107,575, 000 (81.66%)** for **METALOROYA S.A.**, the sum of the amounts referred to being the approved figure when the PAMA was rescheduled by Executive Order RD No. 325-97-EM/DGM dated 10/6/1997.
- The Timeline of **CENTROMÍN PERÚ S.A.** Actions and Investments will be implemented over a period extending to 2005 (9 years), while that of **METALOROYA S.A.** will cover to 2006 (10 years).
- A summary is presented in Appeal No. 1155365 asking for division of the **PAMA** indicating consolidated economic and financial performance through the month of August 1997, and a projection through the month of December. It can be seen in this projection that sales volume for **METALOROYA S.A.** in 1997 will be **US\$ 263,359,500**, of which 1% would be **US\$ 2,633,595**. Planned investment in each of the years the PAMA will be executed surpasses the estimated 1% of **METALOROYA S.A.** sales.

The General Office of Environmental Affairs, in accordance with the referenced report and memo, is of the opinion, based on the above and considering that what is proposed

490.0%



**MINISTRY OF ENERGY AND MINES**

is within what is indicated by the Environmental Regulations for Mining-Metallurgical Activities, Supreme Decree No. 016-93-EM and Supreme Decree No. 059-93-EM, splitting the **PAMA** is recommended, obligating the mentioned companies to carry out the actions and investments of the approved rescheduling.

In view of the above, the undersigned is disposed to approve of the division of the **PAMA** approved by Executive Order No. 325-97-EM/DGM dated October 6, 1997 in favor of **CENTROMÍN PERÚ S.A.** and **METALOROYA S.A.** with the amounts mentioned above for each company, as well as rescheduling the actions and investments and time for environmental mitigation of their Environmental Mitigation and Management Plan, for the technical and economic reasons explained in the referenced report.

Lima, OCTOBER 16, 1997

[signature]

JAVIER F. GUERRERO VALERA  
Association of Engineers of Peru Registration No. 40502  
TECHNICAL OVERSIGHT DIVISION

[initials]

Lima, OCTOBER 16, 1997

Being in agreement with the foregoing report, LET IT BE PASSED UPWARD to the General Office of Mining for that office's information and consequent purposes.

[signature]

CÉSAR LAVADO HUYHUA  
Director of Mining Oversight

Lima, OCTOBER 16, 1997

Having seen the previous report with which this Office is in agreement, **LET THE EXECUTIVE ORDER BE ISSUED** that repeals Article 2 of Executive Order No. 325-97-EM/DGM dated October 6, 1997, leaving in force the other provisions it contains, and **LET IT MODIFY AND INCLUDE** Division of the La Oroya Metallurgical Complex PAMA, with a total amount of US\$ 24,167,000 for **CENTROMÍN PERÚ S.A.** whose term will run until 2005 (9 years), and a total amount of US\$ 107,575,000 for **METALOROYA S.A.**, whose term will run until 2006 (10 years), for the technical and economic reasons defended by the owner. The matter returns to the Mining Oversight Division.

J.G.V.  
LAOROYA.DOC

[signature]

Jorge Díaz Artieda  
Director General of Mining



**MINISTRY OF ENERGY AND MINES**

*Executive Order* No. 334-97-EM/DGM  
Lima, October 16, 1997

Having seen Report No. 104797-EM-EGM-DFM-DFT dated October 10, 1997, on splitting the PAMA of the La Oroya Metallurgical Complex of **CENTROMÍN PERÚ S.A.**, located in the La Oroya District, Yauli Province and Junín Department, and

**WHEREAS**

In accordance with Article 9 of the Regulations for Environmental Protection in Mining and Metallurgical Activity, approved by Supreme Decree No. 016-93-EM and Article 3 of Supreme Decree No. 059-93-EM that modifies in part the Regulations approved by Supreme Decree No. 016-93-EM provides that Environmental Mitigation and Management Programs will be approved or overseen by the General Office of Mining by Executive Order, observing the opinion of the General Office of Environmental Affairs and modified by the same General Office of Mining by Executive Order, ex officio or at the request of the interested party, substantiated on technical, economic, social, and environmental grounds;

With Appeals No. 1152485 and 1155365 of September 19 and October 10, 1997, **CENTROMÍN PERÚ S.A.** asked for Division of the PAMA for the **La Oroya Metallurgical Complex**, for purposes of transfer by sale of the complex, considering it necessary to share the commitments in the Environmental Mitigation and Management Program with **Empresa Metaloroya S.A.**, having defended it before the General Office of Environmental Affairs, the latter has given a favorable opinion in accordance with Report No. 107-97-DGAA/LC dated October 14, 1997 and Memorandum No. 2159-97-EM/DGAA dated October 14, 1997;

In accordance with the Regulations approved by Supreme Decree No. 016-93-EM and its amending Supreme Decree No. 059-93-EM;

**NOW THEREFORE, BE IT RESOLVED:**

**Article 1-** To repeal Article 2 of **Executive Order No. 325-97-EM/DGM** dated October 6, 1997, approving amendment of the timeline of actions and investments for a total amount of **US\$ 131,742,000** for a period of environmental mitigation of **ten (10) years (1997-2006)**, in the Environmental Mitigation and Management Program of the **LA OROYA METALLURGICAL COMPLEX** of **CENTROMÍN PERÚ S.A.**

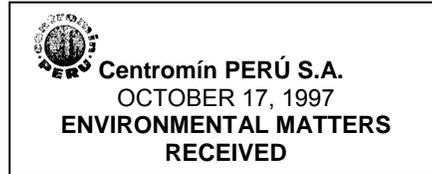
**Article 2-** To approve Division of the PAMA of the **LA OROYA METALLURGICAL COMPLEX**, with a total amount of US\$ 24,167,000 for **CENTROMÍN PERÚ S.A.** for a period to **2005 (9 years)** and a total amount of US\$ 107,575,000 for **METALOROYA S.A.** for a period to **2006 (10 years)**, in accordance with the timeline of actions and investments that must be carried out by both companies in compliance with existing Environmental Regulations.

**So let it be recorded and communicated.**

[signature]  
Jorge Díaz Artieda  
Director General of Mining



**MINISTRY OF ENERGY AND MINES**



REPORT No. 949-97EM-DGM-DFM-DFT

TO: Director General of Mining  
SUBJECT: Modification of the **PAMA** presented by **Centromín Perú S.A.** for the “**La Oroya**”  
**Production Unit**  
REFERENCE: Appeal No. 1149473, 09/15/1997  
Appeal No. 1151912, 09/16/1997  
Report No. 91-97-EM/DGAA/LC  
Memo No. 1184-97-EM/DGAA

With respect to the subject, I wish to inform you of the following:

With the referenced report, the General Office of Environmental Affairs has finished evaluating the referenced documents submitted by **CENTROMÍN PERÚ S.A.** asking for modification of the PAMA with respect to rescheduling the timeline of actions and investments of its various Mining Units, including the PAMA for the “La Oroya” Production Unit. It is mentioned that the amendment considers an increasing the amount of the investment from US\$ 129,125,000 to US\$ 131,742,000, i.e., an additional US\$ 2,617,000, which was spent in the years 1995, 1996, and 1997 during the stages of implementing the monitoring program, developing the EVAP, and developing and securing approval of the PAMA. Rescheduling does not consider modification of the time allowed during approval of the PAMA.

The General Office of Environmental Affairs, in accordance with the referenced report and memo, based on what is requested by Centromín Perú S.A., and taking into account that changing the PAMA is primarily for the purpose of inclusion in it and that activities carried out in the pre-approval stages of the PAMA do not indicate variations in environmental mitigation actions or time that were initially committed to; suggests approval of the modification requested and that it be adapted to the requirements of the Law

As a result of the foregoing, the undersigned is of the opinion that Article 2 of Executive Order No. 017-97-EM-DGM dated January 13, 1997, approving the implementation period of ten (10) years, taking into account the timeline of actions and investments initially introduced amounting to US\$ 129,125,000 should be repealed, with the other provisions remaining in force, and modified to include the new timeline of actions and investments with a total cost of US\$ 131,742,000, for the technical and economic reasons explained in the referenced report.

Lima, SEPTEMBER 30, 1997

[signature]

JAVIER F. GUERRERO VALERA

Association of Engineers of Peru Registration No. 40582

TECHNICAL OVERSIGHT DIVISION

[initials]

990-08



**MINISTRY OF ENERGY AND MINES**

Lima, OCTOBER 3, 1997

Being in agreement with the foregoing report, LET IT BE PASSED UPWARD to the General Office of Mining for consequent purposes.

[signature]  
CÉSAR LAVADO HUYHUA  
Director of Mining Oversight

Lima, OCTOBER 6, 1997

Having seen the previous report with which this Office is in agreement, **LET THE EXECUTIVE ORDER BE ISSUED** that repeals Article 2 of Executive Order No. 017-97-EM/DGM dated January 13, 1997, leaving in force the other provisions it contains, and **LET IT MODIFY AND INCLUDE** the new timeline of the actions and investments in the total amount of **US\$ 131,742,000** for the same period of execution of ten (10) years (1997-2006) of the Environmental Mitigation and Management Program for the “**La Oroya**” **Production Unit** of **CENTROMÍN PERÚ S.A.** for the technical and economic reasons defended by the owner. The matter returns to the Mining Oversight Division.

J.G.V.  
LAOROYA.DOC

[signature]  
Jorge Díaz Artieda  
Director General of Mining



**MINISTRY OF ENERGY AND MINES**

*Executive Order No. 325-97-EM/DGM*  
Lima, October 6, 1997

Having seen Report No. 949-97-EM-DGM-DFM/DFT dated September 30, 1997, about modification of the timeline for actions and investments executing the Environmental Mitigation and Management Program for the “**La Oroya**” **Production Unit** of **CENTROMÍN PERÚ S.A.**, located in the La Oroya District, Yauli Province and Junín Department, and

**WHEREAS**

In accordance with Article 9 of the Regulations for Environmental Protection in Mining and Metallurgical Activity, approved by Supreme Decree No. 016-93-EM and Article 3 of Supreme Decree No. 059-93-EM that modifies in part the Regulations approved by Supreme Decree No. 016-93-EM provides that Environmental Mitigation and Management Programs will be approved or overseen by the General Office of Mining by Executive Order, observing the opinion of the General Office of Environmental Affairs and modified by the same General Office of Mining by Executive Order, ex officio or at the request of the interested party, substantiated on technical, economic, social, and environmental grounds;

With Appeals No. 1149473 and 1151912 of September 15 and 16, 1997, **CENTROMÍN PERÚ S.A.** asked for modifications to the PAMAs of its various production units with respect to the timeline of actions and investments, which included in the “**La Oroya**” **Production Unit**, this modification being substantiated, before the General Office of Environmental Affairs, winning a favorable opinion in Report No. 91-97-DGAA/LC Report dated September 18, 1997, and Memorandum No. 1184-97-EM/DGAA dated September 19, 1997;

In accordance with the Regulations approved by Supreme Decree No. 016-93-EM and its amending Supreme Decree No. 059-93-EM;

**NOW THEREFORE, BE IT RESOLVED:**

**Article 1-** To repeal Article 2 of **Executive Order No. 017-97-EM/DGM** dated January 13, 1997, approving a period of environmental mitigation of ten (10) years for an initially presented schedule of actions and investments amounting to **US\$ 129,125,000**, leaving other provisions that it contains in force.

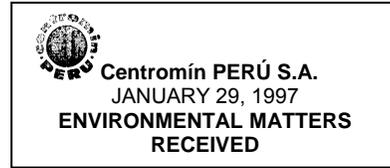
**Article 2-** To approve modification of the timeline of actions and investments for a total amount of **US\$ 131,742,000** for a period of environmental mitigation of ten (10) years (1997-2006) of the “**La Oroya**” **Production Unit** Environmental Mitigation and Management Program of **CENTROMÍN PERÚ S.A.**

**So let it be recorded and communicated.**

[signature]  
Jorge Díaz Artieda  
Director General of Mining



**MINISTRY OF ENERGY AND MINES**



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21-09-04.

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AC  
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JDC

*Executive Order* No. 334-97-EM/DGM  
Lima, January 13, 1997

Having seen File No. 1085164 dated August 29, 1996, and 1099939 of October 13, 1996, presented by CENTROMÍN PERÚ S.A., requesting approval of the Environmental Mitigation and Management Program for the "La Oroya" Production Unit located in the La Oroya District, Yauli Province and Junín Department, and

**WHEREAS**

In accordance with Article 9 of the Regulations for Environmental Protection in Mining and Metallurgical Activity, approved by Supreme Decree No. 016-93-EM and Article 3 of Supreme Decree No. 059-93-EM that modifies in part the Regulations approved by Supreme Decree No. 016-93-EM provides that Environmental Mitigation and Management Programs will be approved or overseen by the General Office of Mining by Executive Order;

With Official Communication No. 334-96-EM/DGAA dated October 28, 1996, the General Office of Environmental Affairs reviewed the cited Environmental Mitigation and Management Program;

Centromín Perú S.A. responded satisfactorily to observations made about its PAMA, earning a favorable opinion from the General Office of Environmental Affairs in Report No. 035-96-EM-DGAA-LCP, and Memorandum No. 1020-96-EM-DGAA; and

In accordance with the Regulations approved by Supreme Decree No. 016-93-EM and its amending Supreme Decree No. 059-93-EM;

**NOW THEREFORE, BE IT RESOLVED:**

**Article 1-** To approve the Environmental Mitigation and Management Program for the "La Oroya" Production Unit of Centromín Perú S.A., located in the La Oroya District, Yauli Province, Junín Department.

**Article 2.-** The "La Oroya" Production Unit of Centromín Perú S.A. will be environmentally mitigated in a period of 10 years from this date.

**So let it be recorded and communicated.**

[signature]  
Jorge Díaz Artieda  
Director General of Mining

**CENTROMÍN PERÚ S.A.**  
MANAGEMENT OF OPERATIONS  
OFFICE TELEX/TELE IBI/FAX  
JANUARY 29, 1997  
TIME:  
SIGNATURE:  
LA OROYA



**EMPRESA MINERA DEL CENTRO DEL PERU S.A.**  
Postal Box 2412 -- Lima 1 Peru, Cables: Centromín Perú, Telephone: 35-5467

GEGE-822-96

San Borja, December 12, 1996

**José Mogrovejo Castillo**  
**Director General for Environmental Matters**  
**Ministry of Energy and Mines**

Ministry of Energy and Mines  
CASHIER -- PROCESSING  
1 DECEMBER 13, 1996  
RECEIVED  
Time: Pages:  
Registration No.: 01099939

**Sir:**

**Ref: Response to Observations about the PAMA -- La Oroya Metallurgical Unit**  
**Official Communication No. 334-96-EM/DGAA of October 28, 1996**

We are writing to forward responses to observations about the Environmental Mitigation and Management Program (PAMA) for the La Oroya Metallurgical Unit, which were answered in accordance with the exchanges made at the meeting held in your office.

In addition, we attach two copies of the revised version of the La Oroya PAMA.

I'm taking the opportunity to extend best regards

[signature]  
**Jorge Merino Tafur**  
**General Manager**

PGA/Doris s.

19-022-000

MINISTRY OF ENERGY AND MINES  
CASHIER'S WINDOW, PROCESSING

FILE INTAKE

Date: December 13, 1996  
Time: 12:09:47 p.m.

Number 1099939

Antecedent:

Interested Party: CENTROMÍN PERÚ S.A.

Description: 2974 REPORTS

REF. OFFICIAL COMMUNICATION No. 334-96/EM-DGAA/OBSERVATIONS PAMA

Reference:

Receiving Office: GENERAL OFFICE OF ENVIRONMENTAL MATTERS

Pages: 13

Note: 4 RINGS

Ministry of Energy and Mines  
CASHIER -- PROCESSING  
1 DECEMBER 13, 1996  
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Time: Pages:  
Registration No.:

19NT1CSAN80 9



**EMPRESA MINERA DEL CENTRO DEL PERU S.A.**  
Postal Box 2412 -- Lima 1 Peru, Cables: Centromín Perú, Telephone: 35-5467

GEGE-822-96

San Borja, December 12, 1996

**José Mogrovejo Castillo**  
**Director General for Environmental Matters**  
**Ministry of Energy and Mines**

Ministry of Energy and Mines  
CASHIER -- PROCESSING  
1 DECEMBER 13, 1996  
RECEIVED  
Time: Pages:  
Registration No.: 01099939

**Sir:**

**Ref: Response to Observations about the PAMA -- La Oroya Metallurgical Unit**  
**Official Communication No. 334-96-EM/DGAA of October 28, 1996**

We are writing to forward responses to observations about the Environmental Mitigation and Management Program (PAMA) for the La Oroya Metallurgical Unit, which were answered in accordance with the exchanges made at the meeting held in your office.

In addition, we attach two copies of the revised version of the La Oroya PAMA.

I'm taking the opportunity to extend best regards

[signature]  
**Jorge Merino Tafur**  
**General Manager**

PGA/Doris s.

19-022-000

MINISTRY OF ENERGY AND MINES  
CASHIER'S WINDOW, PROCESSING

FILE INTAKE

Date: December 13, 1996  
Time: 12:09:47 p.m.

Number: 1099939  
Antecedent:  
Interested Party: CENTROMÍN PERÚ S.A.  
Description: 2974 REPORTS  
REF. OFFICIAL COMMUNICATION No. 334-96/EM-DGAA/OBSERVATIONS PAMA  
  
Reference:  
Receiving Office: GENERAL OFFICE OF ENVIRONMENTAL MATTERS  
Pages: 13  
Note: 4 RINGS

Ministry of Energy and Mines  
CASHIER -- PROCESSING  
1 DECEMBER 13, 1996  
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Time:           Pages:  
Registration No.:

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## RESPONSES TO OBSERVATIONS ABOUT THE LA OROYA METALLURGICAL UNIT PAMA

Ministry of Energy and Mines  
CASHIER -- PROCESSING  
1 DECEMBER 13, 1996  
RECEIVED  
Time: Pages:  
Registration No.: 010999339

### 1.0 INTRODUCTION

On October 23, 1996, your office issued a document, Evaluation of Compliance with the La Oroya Metallurgical Unit PAMA, that after commenting on the following points: Diagnosis of environmental problems, Proposed solutions at the profile level, Amounts and timeline of investments and Sanctions, concluded that the PAMA presented did not comply with what was required for a thorough evaluation of the mitigation program, and that observations about precision and detail needed to be remedied within the following 60 days.

Additionally, dated October 28, 1996, Official Communication 334-96-EM/DGAA was received containing the report of 37 observations made with respect to the PAMA, providing the detail of the Evaluation of Compliance.

### 2.0 EVALUATION OF COMPLIANCE WITH PAMA

The comments and observations in this regard refer mainly to lack of information, depth of analysis and accuracy of investments, which apparently do not give the PAMA the solidity that the program warrants and the law requires.

#### 2.1 DIAGNOSIS OF ENVIRONMENTAL PROBLEMS

Existing information is called for that would be submitted and approved in the EVAP, as is the case of the liquid effluent, solid waste, and deposits. In addition, sampling of the affected soil around La Oroya is requested, in order to provide better quantification of the impacts, and to achieve the best mitigation measures.

#### 2.2 PROPOSED SOLUTIONS AT PROFILE LEVEL

It is considered that the proposed mitigation solutions are descriptive and general, and inconsistent with the amounts and timelines, especially with respect to the SO<sub>2</sub> problem.

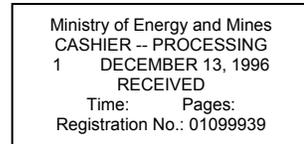
#### 2.3 AMOUNTS AND TIMELINE OF INVESTMENTS

Greater substantiation is required of amounts and times; in particular, minimum amounts of annual investment equivalent to 1% of annual sales need to be considered, as stated by law.

#### 2.4 RELATIONSHIP OF OBSERVATIONS RAISED

The 37 observations made refer to specific points that need to be corrected to bring the PAMA into compliance with current legal provisions, and make it the management element that allows expected environmental levels to be reached, accommodating itself to existing environmental regulations.

### 3.0 RESPONSES TO OBSERVATIONS RAISED



#### 3.1 GENERAL CONSIDERATIONS

It should be stated that the PAMA presented August 30 [illegible] reiteratively to the EVAP, an approved document, considered that it was not pertinent to repeat the information tabulated in it, and because of this, the PAMA suffers from the appearance of superficiality lent to it by this information.

There is detailed information concerning the observed points that was not reported in the PAMA for reasons of simplification that was the subject of an interpretation of omission.

The proposed solutions for Environmental Control have been developed for the most part by consulting foreign companies of recognized prestige that proposed high-efficiency technologies of known application, and that we therefore consider viable and dependable solutions.

The amounts indicated for investments exceed the annual minimum investment required by law, there is no risk in implementation of the program, as it involves smaller amounts than those typically handled, and does not compromise management of the business.

#### 3.2 ANSWERS

For the purpose of responding to the comments raised, the PAMA has been subjected to a thorough review, supplemented with details, and expanded with additional information, which in some cases exceeds the amount requested, and its structure has been improved to provide a document that can be more readily comprehended.

The attached table of responses addresses each of the 37 comments raised in concrete form, indicating the section, charts, tables and other parts of the document where the respective detail can be found.

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RESPONSE TO OBSERVATIONS ABOUT THE PAMA -- LA OROYA METALLURGICAL UNIT					
No.	Page	Section	Description	Comment	Response
1	7	2.1.3	Liquid effluents, treatment and final disposition	It should be explicitly indicated for each effluent if this is discharged directly into the river (Mantaro or Yauli) or discharged by means of another effluent.	Discharge of each effluent is detailed in Table 4.1.2/1 (Page 80)
2				In Table 2, 3A, and others that are similar, the limiting reference value (LMP) should be given of the General Law on Water or other source for the elements whose LMP is not considered in Supreme Decree 011-96EM/VMM. This will allow the reader to form an idea of the severity of contamination by each element.	Tables No. 2, 3A, and others have been replaced by 4.1.2/2, 2A, 3, and 3A on pages 125 and 128, in which the maximum permissible limits (LMP) are included.
3	15, etc.	2.1.3		Indicate if the 7 effluents selected as the major flow rates are also those with the greatest contaminant load. The magnitude (flow rate or load) of this group with respect to the remaining effluents should also be indicated.	Discharges of the 7 effluents of greatest contamination, which account for 94% of the total, are detailed in Tables 4.1.2/4, 3, 4 and 4A, 5 and 5A on pages 129 to 132.
4				Indicate if the averages of the concentrations reported in Table 2.4 are arithmetic or weighted.	Table 2.4 has been replaced by 4.1.2/4 and 4A (pages 129 and 130), where it is indicated that the averages reported are arithmetic.
5				Correct Table No. 2, 3B -- the pH values (> 200), concentrations, etc., are very incongruent.	Tables 2 and 3B have been replaced by 4.1.2/2 and 2A (pages 125 and 126), where the pH values have been corrected and correspond to the effluents whose codes are 131 to 137.

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No.	Page	Section	Description	Comment	Response
6	7	2.1.3		The concentration of greases/oils in Workshop effluents should be reported (Table No. 2, 3D)	Greases and oils are recirculated in the Bunker No. 6 heavy petroleum tanks, which is indicated in section 4.1.3, Industrial Solid Wastes (Chapter IV -- page 85)
7				In Table 2.4 of the most important liquid effluents, the concentration should also be reported of Cd, As, and Mn that are notably high in those effluents. The fact that the Ministry of Energy and Mines has not fixed the LMP for these elements does not imply in any way that they should not be reported and controlled. Table 2.16 apparently reports average concentrations in the Mantaro and Yauli Rivers -- the title should indicate what it refers to. It is extremely important to indicate the sampling date and/or if the annual average is arithmetic or weighted. Contamination of the river is much greater in the summer.	Table 2.4 has been replaced by Tables 4.1.2/5 and 5A (Pages 131 and 132) in which contents of Cd, As, and Mn are reported. Table 2.16 has been replaced by Tables 4.1.2/6 and 6A (pages 133 and 134) that refer to the Mantaro and Yauli Rivers, and indicating the sampling date and that the figures reported are the arithmetic average.
8	16, etc.	2.1.4	Solid Wastes, treatment and final disposition	The description of the solid wastes is insufficient to characterize them from an environmental point of view. It must be supplemented with granulometry, water-soluble metallic content, pH of paste, etc., since these wastes are exposed to rainwater and other natural agents. The same applies to the information reported in Table 2.5. The ideal would be to run chemical resistance tests on the natural agents (weathering), to establish the degree of dissolution these metals will undergo in the future.	The characterization and granulometry of the solid wastes is indicated in Tables 4.1.3/1, 4.1.3/2, and 2A. The additional information requested about chemical resistance is set out in the studies conducted by consulting companies into abandoning the arsenic trioxide deposits, Cu and Pb slags, and zinc ferrites.

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No.	Page	Section	Description	Comment	Response
9				Clarify the concept of "storage" on the banks of the Mantaro River when referring the manganese dioxide waste. Describe the type of confinement adopted for storing this waste.	Manganese dioxide is not a waste, but a reagent of daily consumption and its storage is temporary and minimal, at more than 100 meters from the bank of the Mantaro River.
10				The deposits or stockpiles of slag, slurries (ZLR), etc., have not been adequately described. Required are: area, dimensions, height, depth, humidity, % solids, precise location with respect to highway, population, rivers, green areas, etc., and coordinates, as well as gradients of the slopes, peripheral canals, if any, to collect runoff, and quality of the substrate. Indicate if they have been made impermeable or not, estimated volume of each deposit, and useful life.	The detail requested is in Drawing No. M-03-96-02, Chapter IV, Project No. 03 for Cu/Pb slags. Zinc ferrites in Drawing No. M-03-96-04 of Project No. 15, and arsenic trioxide in Figures 1 and 2 of Project No. 14 are explained in Section 4.1.3 (pages 81, 82, 85).
11	19, etc.	2.1.5	Gaseous emissions, treatment and final disposition	The gases that the Coke Plant emits are not, or should not be, from combustion; they are fugitive distillation gases. It is not certain if they are noxious; they generally contain phenols, nitrous gases, etc., and this should be confirmed/disproved by sampling/analysis. Table 2.7 needs to include analysis of this type for gases from the Coke Plant.	Tables 4.1.1/5, 5A, 5B, and 5C (pages 106 to 109) reaffirm that these are combustion gases, and with respect to distillation gases, these are recorded in Project No. 2 of Chapter V.
12				Gases emitted from the Anodic Wastes Plant need to be analyzed to determine the concentration of nitrous gases (Table 2, 7H).	Table 2, 7H has been replaced by 4.1.1/8 and 8A (pages 114 and 115). Nitrous gases are generated by the use of sodium nitrate in the cupellation process, an operation carried out once a week. There is no representative analysis of nitrous gases

No.	Page	Section	Description	Comment	Response
					In this respect, Project No. 3 of Chapter V is presented to eliminate consumption of sodium nitrate
13	28	2.2.2	Physical Environment, Climate	Specify in what units -- mm/month, mm/year, etc., the values of pluvial precipitation are expressed. The action of washing indicates that solid wastes deserve better characterization (see Note 8).	The units are expressed in mm H <sub>2</sub> O/year and are specified in Tables 2.1.3/2 and 2.1.3/3 (pages 34 and 35).
14	29		Air Quality	The LMP for gases established by Executive Order 315-96 should be included together with concentrations of elements reported during air monitoring (Table 2.13 and others).	What is requested can be seen in Tables 2.1.4/2 and 2A (pages 38 and 39).
15	34	2.2.5	Soils	Clarify the concept of "lightly acidic" when referring to the soils with a pH on the order of 3.5 (Table 2.1.4): the severity of the contamination may be greater than suggested by this comment.	The phrase "lightly acidic" refers to a technical agricultural term, but fits an indication that the soils have been affected by SO <sub>2</sub> emissions washed down by rainwater action, which is explained in Chapter IV, Section 4.2.1 (page 87).
16	35, etc.	2.3	Biological Environment	Table 2.15 showing the chemical composition of plants needs to be contrasted with analysis of similar plants from uncontaminated areas. The table should be fully discussed.	Table 2.15 has been replaced by Table 2.2.2/1 (page 42), in which the content of essential elements in the plants is indicated: Diagram 7.2.4/3 and Drawing 1-559-01-2008 of Annex No. 8.

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				The text that describes the impacts and is accompanied by photographs should be supplemented with maps of the areas described. The maps of Annexes 8 and 10 need to be improved with topographic information, green areas, lagoons, rivers, etc., and incorporated into this section of the text. The maps are of poor quality.	The maps of Annexes 8 and 10 have been replaced with Diagram 7.2.4/3 of Chapter VII and Map 1.3/1 in the Annex of Chapter I, as well as Map 1-559-01-2008 of Chapter V (Project No. 4).
17	37, etc.	2.4	Socioeconomic Environment	The incidence of one or another type of illness in La Oroya needs to be substantiated in statistical tables.	According to what was discussed with the Ministry of Energy and Mines Office of Environmental Affairs, this question was discarded.
18	50	2.5	Human Interest Environment	It needs to be indicated if La Oroya is the point where principal routes to the areas of Huancayo, Chanchamayo, Huanuco-Pucallpa converge. All of this transit is frequently affected by interruptions in the streets of La Oroya directly and indirectly related to Centromin Perú activities.	Although this question was eliminated, it is answered in Chapter II, Section 2.3.1 (pages 30 and 31). (means of communication).
19	63, etc.	4.0	Summary of Evaluation and Analysis of the Environmental Impacts	The table mentioned in paragraph 1 on page 65 is missing. Table 4.1 is not mentioned in the text. It is not possible, therefore, to interpret the text. These omissions are serious.	The table mentioned was omitted, and this information is indicated in Tables 4.1.2/2, 2A, 3 and 3A (pages 125 to 128). The omitted Table 4.1 is detailed in Section 4.1.1 (pages 72 to 77).
20				The impacts need to be described much more fully, indicating at least the load of each metal discharged to each river from each liquid effluent. The same needs to be done with the	The load discharged in each liquid effluent can be seen in Tables 4.1.2/3 (page 127) and 4.1.2/3A (page 128). The gaseous and dust emissions from the principal smokestack can be seen in Table No.

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				gaseous and dust emissions. A historical record should have been made of the contaminant dusts discharged into the surrounding area to determine whether their dissolution will continue contaminating soil and water. The soil analysis of Table No. 2.1.4 is insufficient. It should have been done by analyzing soil samples from the entire area of influence of this activity for metal content in order to have a more "quantifiable" idea of the damage, environmental impact, and the measures required for mitigation and rehabilitation.	4.1.1/3B (page 100). Table 2.1.4 has been replaced by Table 2.1.6/1 (page 41), showing the results of analyses conducted in the Laboratory of the Agricultural University.
21	67, etc.	5.0	Mitigation Measures Plan	The cost of the Sulfuric Acid Plant must be expressed correctly (in millions US\$). Mitigation measures must be presented at least at the level of "Project Profile," as it has not been, nor has relevant information been included, such as metallurgical balances, flow diagrams, results of experimental tests, etc.	The response is in Project No. 1, Chapter V, page 155 (new sulfuric acid plants).
22				Manufacture of acid does not resolve the problem unless a market exists. The profile needs to include information about the destination of the acid manufactured. It should also indicate why other alternatives were not evaluated, and if they were, this should be reported. More costly alternatives such as simple neutralization with limestone, lime, etc., or other methods of sulfur fixation are nevertheless the only definitive solutions.	The response is in Project No. 1, Chapter V, page 155 (new sulfuric acid plants).

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23				The project with code 119 considers treatment of highly acidic solutions in the Cadmium Plant to avoid discharge into the river. This must be accompanied by a flow diagram and metallurgical balance sheet showing that the acid additionally fed to this plant does not exceed its capacity, and finally, that it is poured into the receiving environment implies that only the discharge point is being changed, not the contaminant load.	This is not a project; the comment refers to the effluent with code 119, explained in full in Project No. 7, Chapter V, page 197.
24				In the description of the project with code 123, the chemical composition of the new effluent once Cu and Ag are recovered must be included to ensure that the contamination has been controlled.	In Project No. 8 (page 198): Treatment Plant for Industrial Liquid Effluents, the final effluent will be discharged into the Mantaro River within the Maximum Permissible Levels.
25				In the description of the project with code 118, the chemical composition, pH, and TSS of the new effluent once treatment has been completed must be included to ensure that the contamination has been controlled.	Detailed in Project No. 10 of Chapter V, where recirculation of this effluent is considered.
26				In the description of the project with code 118, the chemical composition, pH, and TSS of the new effluent once treatment has been completed must be included to ensure that the contamination has been controlled.	Repetition of Question 25.
27				In the description of the project with code 126, the chemical composition, pH, and TSS of the new effluent once treatment has been completed must be included	Response similar to that answering Question No. 24.

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				to ensure that the contamination has been controlled. It is mentioned that studies were carried out by the company ECOLAB S. R. L, but the results were not attached. A map must also be included that indicates the relative location of the Plant (Cochabamba).	
28				In the description of the project with code 124, the chemical composition, pH, and TSS of the new effluent once treatment has been completed must be included to ensure that the contamination has been controlled.	It is detailed on page 211 with Project No. 11 (Chapter V), where it is indicated that the final effluent will be treated as in Project No. 8 (Treatment Plant of Liquid Effluents).
29				In the description of the project with code 136, the time of construction and the estimated cost are given, but as the dimensions, geometry, and material of the containment wall are not included, 5 million dollars is certainly a high figure for a retaining wall.	Error in the comments questionnaire, the same as was dismissed in the Ministry of Energy and Mines: the amount should be US\$ 5,000 (Five Thousand Dollars). Set out in detail in Project No. 9 in Chapter V.
30				The project with code 135 has an extremely high flow rate, together with concentrations of metals well above the LMP. However, no treatment, investment, timeframe, etc., is described for this effluent. It is simply indicated that it will be equal to "X effluent or neutralization with milk of lime." We believe this is a very serious omission because it is one of the main contaminating effluents discharged directly into the Mantaro River.	Response similar to that answering Question No. 24.

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No.	Page	Section	Description	Comment	Response
31				In the description of the project with code R4, the chemical composition, pH, and TSS of the new effluent once treatment has been completed must be included to ensure that the contamination has been controlled. It is assumed that information from the Study carried out by the Department of Metallurgical Research was consulted.	A typographical error in the PAMA: this should be R-1, and it is set out in Project No. 5 in Chapter V (page 188).
32				In the project description with R-4 code, include the chemical composition, pH, and TSS of the new effluent compared to the previous practice. Note also that the concentration of Cu is still above the LMP	Set out in Project No. 5, Chapter V (page 188).
33				The EVAP is cited several times as a source of data for metal concentrations, noting at the same time that it is dated April 1996 to June 1996. The EVAP was realized in March 1995.	The corresponding corrections have been made.
34				While the investment timeline in Table 5.1 indicates that a total of US\$ 2 million will be invested to rehabilitate the area affected by fumes, it does not explain how it will be done. There is no project profile or a proper diagnosis. See note 20 in this same table.	Fully explained in Project No. 4 in Chapter V (page 178).
35	98		ANNEXES	The table (it doesn't have a number) that summarizes the mitigation measures/investments is incomplete, it seems more like an index, because it makes references to other sections of the text, and does not record the measures or the costs in all cases.	Explained in Chapter V, Table 5.1.1 (page 141).

No.	Page	Section	Description	Comment	Response
36				The new INBA system proposed for granulation of the slag uses a water/slag of 10: it should be indicated what the value of this relationship is with current practice. The least that should be included in a proposal of 6.5 million US\$ is the flow diagram and balance of materials. Indicate whether the new system involves a new ("state of the art") system of granulation, or whether this is simply a good method of recovery from water that was never implemented before. This will allow determination of whether the proposed timeline is correct.	The ratio is 1:40, it is state of the art technology, and one of these systems is operating in Hoboken, Belgium. The flow diagram and balance are detailed in Project No. 12 of Chapter V (page 212). The main equipment of the system is on order, and its construction will take 8 to 12 months.
37				The proposed closure of Cu and Pb slag deposits mentions several studies being conducted. The chemical Feasibility Study of these materials must be included. A study also needs to be included of alternative uses of the slag as building material, e.g., "sand blasting" (currently in practice), etc.	According to the report of the consultant Rescan S.A., slags are chemically stable (Project No. 13, page 220). Alternative uses for slag have been studied in the Company for more than 30 years, examining its feasibility in multiple uses as indicated in the comments, and even in the manufacture of cement and glass wool. While testing positive at the experimental level, the high processing costs and limited market for these products makes such plans infeasible.

**DOE RUN PERU**  
 La Oroya Division  
**APRIL 16, 1998**  
**ENVIRONMENTAL MATTERS**  
**RECEIVED**

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To the Notary:

Please include in your Registry of Public Documents the Environmental Management Stability Contract entered into by the Ministry of Energy and Mines on behalf of the Peruvian State, duly represented by the Vice Minister of Mines Juan MENDOZA MARSANO, identified with Electoral Document No. 09179432, authorized by Ministerial Resolution No. 292-97-EM/VMM dated July 7, 1997, and as the other party, the Company METALÚRGICA LA OROYA S.A., in the mining business, Single Taxpayer Registry Number 33526610, existing and organized under the laws of the Republic of Peru, recorded in Entry 1 of Listing No. 040367 of the Registry of Public Mining Companies, domiciled in Avenida Javier Prado Este No. 2175, San Borja, hereinafter denominated "the Contractor," represented by its General Manager Jorge MERINO TAFUR, identified with Electoral Document No. 07341351, in accordance with the power of attorney that you will please insert, in the following terms and conditions:

**CLAUSE ONE -- BACKGROUND**

1.1. The Regulations for Protection of the Environment established in the Environmental and Natural Resources Code, as well as those related to Mining-Metallurgical Activity contained in the General Mining Law and its regulations, approved by Supreme Decrees No. 016-93-EM and 059-93-EM, Executive Orders No. 25763, its Regulations Supreme Decree No. 012-93-EM and amendments Supreme Decree No. 036-93-EM and 058-93-EM, establish that the Ministry of Energy and Mines is responsible for setting environmental protection policy in mining-metallurgical activity.

1.2 By Legislative Decree No. 674 of September 25, 1991, Promotion of Private Investment in businesses within the Commercial Activity of the State was declared to be in the national interest.

1.3 By means of Executive Order No. 102-92-PCM the agreement adopted by the Commission for Promotion of Private Investment (COPRI) was ratified, approving the new Plan for Promotion of Private Investment referred to in Legislative Decree No. 674.

1.4 By Executive Order No. 016-96-PCM the agreement adopted by COPRI was ratified, approving the new Plan for Promotion of Private Investment with respect to CENTROMÍN PERÚ S.A.

1.5 By COPRI agreement made in session April 17, 1996, the constitution of businesses was authorized on the basis of the operating units of CENTROMÍN, in accordance with Article 10 of Legislative Decree No. 674.

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TO: Juan D'Ambrosio	FROM: Jorge Gutierrez
COMPANY/DEPARTMENT:	COMPANY/DEPARTMENT:
PHONE:	PHONE: 442 1320
FAX: 664-393030 X22224	FAX 42164[illegible]:

990-10

1.6 Empresa Metalúrgica La Oroya S.A. -- also called Metaloroya S.A. was established within the stated context on the basis of the La Oroya Production Unit, whose shares are owned entirely by CENTROMÍN, and whose purpose is primarily engaging in all activities of the mining and metallurgical industry.

1.7 CENTROMÍN PERÚ S.A. will transfer to Empresa Metalúrgica La Oroya S.A. -- METALOROYA S.A., on the signing of this share transfer contract between CENTROMÍN PERÚ S.A. and DOE RUN PERÚ SR.Ltda and winner of Competition PRI-16-97, the operations of the former La Oroya Production Unit. METALOROYA S.A. will assume responsibility for environmental issues arising from these operations through mining concessions and benefits that are being provided.

1.8 By Board Resolution No. 017-97-EM-DGM dated January 13, 1997 the General Office of Mining adopted the Environmental Mitigation and Management Program [PAMA] of the La Oroya Operating Unit, whose rescheduling has been approved by Board Resolution No 325-97-EM/DGM of October 6, 1997.

1.9 With Appeal No. 1152485 September 19, 1997, CENTROMÍN PERÚ S.A. asked the General Mining Office for division of the La Oroya Production Unit PAMA, which was approved by Board Resolution No. 334-97-EM/DGM of October 16, 1997, entailing that "The Contractor" execute the Plan and Timeline of Investments included in Annex 2, which is confined to mining concessions and benefits listed in Annex No. 1. The Annexes mentioned, hereinafter "THE PAMA," are an integral part of this contract.

1.10 With Appeal No. 1152487 dated September 19, 1997, "The Contractor," in accordance with provisions of Articles 4 and 10 of Supreme Decree No. 016-93-EM, applied to the Ministry of Energy and Mines to be granted a Guarantee of Environmental Management Stability with respect to "THE PAMA."

1.11 Among its objectives, THE PAMA sets out actions to mitigate and prevent environmental degradation caused by mining and metallurgical operations of the LA OROYA Metallurgical Unit, and includes the schedule of investments in measures to be implemented to mitigate the environmental impacts identified.

## **CLAUSE TWO -- OBJECT OF THE CONTRACT**

The object of this contract is to ensure that "The Contractor" has environmental administrative stability for the work of solving environmental problems included in "THE PAMA" so that possible changes in standards and maximum permissible levels will not adversely affect it during the term of this contract.

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## **CLAUSE THREE -- PERIOD OF THE CONTRACT**

The present Contract will enter into force on the date of its signing by the parties, and will culminate in the period of ten years from approval of the PAMA.

## **CLAUSE FOUR -- CONTRACTUAL GUARANTEES**

4.1 Maximum permissible levels are those determined in Annex No. 2 of Ministerial Resolution No. 011-96-EM/VMM and Ministerial Resolution No. 315-96-EM/VMM that are in effect when this contract is signed. These levels will not be subject to modification during the period in effect of the contract.

4.2 It will be understood that references to laws, legislative decrees, decree laws, executive orders and other legal provisions in the present instrument have been complied with in accordance with existing texts as of the date of approval of "THE PAMA," for whose effect the present contract constitutes a guarantee; nor does it exempt from compliance with obligations established in existing legislation applicable on the date of approval of "THE PAMA," or with other provisions approved later, provided that they do not conflict with the guarantees granted by the present.

**CLAUSE FIVE -- OBLIGATIONS OF THE CONTRACTOR**

“The Contractor” is obligated to realize the operational monitoring program during the time in effect of “THE PAMA,” the results of which will be reported to the Ministry of Energy and Mines in accordance with Ministerial Resolutions No. 011-96-EM/VMM and 315-96-EM/VMM.

**CLAUSE SIX -- THE PAMA AND ITS PERIOD OF EXECUTION**

6.1 The period of execution of “THE PAMA” is ten years, ending January 13, 2007.

6.2 The Investment Plan included in “THE PAMA” and referred to in Article 18 of Supreme Decree No. 016-93-EM contains the works and acquisitions necessary to set the projects in motion, in detail.

6.3 The objectives, the principal environmental controls, environmental mitigation works and labor contained in the Investment Plan of “THE PAMA” are set out in Annex 2 that forms an integral part of the present contract.

[illegible seals and initials]

**CLAUSE SEVEN -- AMENDMENT OF THE PAMA**

“THE PAMA” may be amended in accordance with what is specified in Article 17 of Supreme Decree No. 016-93-EM.

**CLAUSE EIGHT -- TRANSFER OR ASSIGNMENT**

This contract may be the object of assignment, award, contribution, or other type of transfer or allotment, with the express prior consent of the State. For consent granted by the State, signing of the corresponding draft and public document will suffice.

**CLAUSE NINE -- FORTUITOUS EVENTS AND FORCE MAJEURE**

In accordance with Article 1315 of the Civil Code , if for reasons of unforeseeable circumstances or force majeure, compliance is prevented or delayed with obligations foreseen in the execution of “THE PAMA,” that impediment or delay will not constitute noncompliance with the contract, and the deadline for any obligation foreseen in “THE PAMA” or in the present instrument will be extended by the time corresponding to the period or periods during which “The Contractor” has been prevented from performing or has delayed its contractual obligations as a result of the reasons specified in this clause.

“The Contractor” will give notice on the day the event begins to the General Mining Office, verifying the facts, followed within five days of the event by a report from its environmental auditor.

**CLAUSE TEN -- EXPENSES**

All expenses related to the development and registration in the Public Registry of Mining of this contract will be the exclusive responsibility of “The Contractor,” including a set of testimony for the General Office of Mining, and a single copy to the General Office of Environmental Affairs.

**CLAUSE ELEVEN -- TERMINATION OF THE CONTRACT**

Failure to comply with “THE PAMA” within the period referred to in paragraph 6.1 of Clause Six, except for reasons of force majeure or fortuitous event will be cause to terminate the present contract.

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**CLAUSE ELEVEN -- DOMICILE**

For purposes of this contract and all judicial or extrajudicial notification directed to it, the contractor indicates as its domicile that given in the introduction to this instrument. Any change will be communicated to the General Mining Office through Notarized Letter.

Will you, the Notary, add the clauses required by Law, and enter the respective parties into the Public Registry for their enrollment.

The parties sign, in witness of their express acceptance of the content of the terms and conditions of the present contract, in triplicate, on the 17<sup>th</sup> of October of 1997.

[signature]  
THE STATE  
JUAN MENDOZA M.  
Vice Minister of Mines

[signature]  
THE CONTRACTOR

[illegible seals and initials]

TABLE No. 1  
 INVESTMENT PLAN  
 LA OROYA METALLURGICAL COMPLEX (METALOROYA)

PROJECT	OBJECTIVES	MAIN ENVIRONMENTAL CONTROLS/ MITIGATION WORKS
New Sulfuric Acid Plants	Fix SO <sub>2</sub> of the emissions produced by metallurgical operations and reach the maximum permissible levels	2 sulfuric acid plants will be installed: Acid plant of the Cu smelter, 235,000 tons/year Acid plant of the Pb Zn circuit, 270,000 tons/year Results of the mitigation: A minimum of 83% of the SO <sub>2</sub> generated will be fixed For an intake of 515 tons/day (188,261 tons/year) of sulfur, 110 tons/day of SO <sub>2</sub> are emitted to the environment. With respect to air quality, the daily concentration will be below 572 µg/m <sup>3</sup> thus complying with Ministerial Order No. 315-96-EM/VMM.
Treatment plant of Copper Refinery mother liquor	Treat ferrous acid solutions of the copper refinery that are discharged into the Yauli River and obtain a neutralized solution appropriate for recycling and/or disposal with previous removal of nickel and purification of the Raff solution to obtain a final effluent with impurities below the maximum permissible limits established the Ministry of Energy and Mines.	Process of pre-dilution, ionic exchange, electrowinning (SX-EW), neutralization.
Retention wall for lead slurries in the Zileret Plant -- Zinc Division	Install a concrete wall to store lead slurries discharged by the Zileret Plant hydrometallurgical unit.	Recover and recirculate acid solutions to acid leaching circuit of the hydrometallurgical unit.

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PROJECT	OBJECTIVES	MAIN ENVIRONMENTAL CONTROLS/ MITIGATION WORKS
Treatment Plants of Industrial Liquid Effluent from La Oroya Smelter and Refinery	Obtain an effluent in the direction of the Mantaro River with contaminant content at the maximum permissible levels (Ministerial Order No. 011-96-EM/VMM) for mining-metallurgical activity.	Implementation of an effluent treatment plant with treatment capacity of 9 m <sup>3</sup> /min and a process of neutralization and precipitation with flocculant. Ministerial Order No. 011-96-EM/VMM
Recirculation of water used in granulation of Speiss from frothing furnace -- Lead Smelter	Eliminate contamination of the Mantaro River by contaminant substances and suspended solids in the water from granulation of Speiss.	Use Speiss granulation waters in closed circuit.
New anode washing system -- Zinc Refinery	Eliminate contamination of the Mantaro River.	Optimize water consumption by automating anode washing. The residual volume will be treated in the treatment plant for industrial liquid effluents.
Management and disposition of copper and lead slags	Eliminate contamination of the Mantaro River by contaminant substances and suspended solids in the water from granulation of copper and lead slags.	2 new IBA-type rotary dewatering systems will be installed for recirculation of granulation and transport water. With this implementation evacuation of granulation waters will be eliminated and loss of slag to the Mantaro River will be prevented.
New Copper and Lead slag deposit (Cochabamba)	Prepare a new deposit 9 km from the La Oroya-Huancayo road on the left bank of the Mantaro River.	Minimize contamination in the direction of the Mantaro River in accordance with existing environmental standards.
New Arsenic Trioxide Deposit	Build a new deposit with advanced technology that meets environmental control standards.	Consists of a system made up of lining at the bottom of the deposits, a cover, and a system of detection and monitoring of leaching, designed to control the release of contaminants into the environment and control of potential public exposure. The quality of environmental air as with water discharged into the Mantaro River will be in accordance with the maximum permissible levels established by the Ministry of Energy and Mines.

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PROJECT	OBJECTIVES	MAIN ENVIRONMENTAL CONTROLS/ MITIGATION WORKS
Treatment of service water and disposition of garbage in La Oroya	Execution of works, acquisition and installation of equipment for treatment of service water and disposition of garbage in housing areas connected to CENTROMÍN PERÚ S.A.	Installation of service water treatment plants, one in Chúlec and the other in Sudete to yield effluent under 30 ppm DBO and 40 ppm suspended solids. Provide a final disposition plant using sanitary landfill techniques, eliminating contamination of the Mantaro River.

[illegible]

Objective:

(\* Investments considered for operational continuity and process improvement initiated by CENTROMÍN PERÚ S.A. and will be continued by METALOROYA S.A.

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ANNEX No. 2

TABLE No. 2

TIMELINE OF INVESTMENTS OF ENVIRONMENTAL MITIGATION AND MANAGEMENT PLAN (PAMA)

LA OROYA METALLURGICAL COMPLEX -- METALOROYA S.A.