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Report No: 73636 - ME

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF EURO 50.0 MILLION
(US$68.9 MILLION EQUIVALENT)

TO

MONTENEGRO

FOR AN

INDUSTRIAL WASTE MANAGEMENT AND CLEANUP PROJECT

August 19, 2014

Environment and Natural Resources Global Practice
Europe and Central Asia

CURRENCY EQUIVALENTS

(Exchange Rate Effective March 31, 2014)

Currency Unit = EURO (EUR)
1 EUR = 1.37985US$

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

BP	Bank Procedures	LA	Loan Agreement
CPS	Country Partnership Strategy	M&E	Monitoring & Evaluation
DA	Designated Account	MOF	Ministry of Finance
EA	Environmental Assessment	MTR	Mid-Term Review
EPA	Environmental Protection Agency (under MSDT)	MSDT	Ministry of Sustainable Development and Tourism
EPCG	Elektroprivreda Crne Gore AD (Montenegro's National Power Company)	NCB	National Competitive Bidding
ESIA	Environmental and Social Impact Assessment	NPV	Net Present Value
EIRR	Economic Internal Rate of Return	OP	Operational Policy
EMP	Environmental Management Plan	ORAF	Operational Risk Assessment Framework
FIRR	Financial Internal Rate of Return	PAD	Project Appraisal Document
FMM	Financial Management Manual	PSC	Project Steering Committee
FSR	Feasibility Study Report	PDO	Project Development Objective
GDP	Gross Domestic Product	PIM	Project Implementation Plan
GHG	Greenhouse Gas	PMU	Project Management Unit
GOM	Government of Montenegro	PPA	Project Preparation Advance
IBRD	International Bank for Reconstruction and Development	RAP	Resettlement Action Plan
ICB	International Competitive Bidding	RPF	Resettlement Policy Framework
IFRs	Interim Financial Reports	SAI	Montenegro State Audit Institution
IPPC	Integrated Pollution Prevention and Control	SIL	Specific Investment Loan
IWMCP	Industrial Waste Management and Cleanup Project	SSS	Single Source Selection
KAP	Kombinat Aluminijuma Podgorica (Aluminum Industry Podgorica)	TTL	Task Team Leader
KPI	Key Performance Indicator	TOR	Terms of Reference
LIBOR	London Interbank Offered Rate	TSU	Technical Service Unit

Regional Vice President:	Laura Tuck
Country Director:	Ellen Goldstein
Global Practice Senior Director:	Paula Caballero
Practice Manager:	Kulsum Ahmed
Task Team Leader:	Frank van Woerden

MONTENEGRO
Industrial Waste Management and Clean-up Project

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PAD DATA SHEET

Montenegro

Industrial Waste Management and Cleanup Project (P122139)

PROJECT APPRAISAL DOCUMENT

EUROPE AND CENTRAL ASIA

0000008379

Report No.: PAD280

Basic Information			
Project ID P122139	EA Category A - Full Assessment		Team Leader Frank van Woerden
Lending Instrument Specific Investment Loan	Fragile and/or Capacity Constraints [ ] Financial Intermediaries [ ] Series of Projects [ ]		
Project Implementation Start Date 01-Oct-2014	Project Implementation End Date 31-Dec-2018		
Expected Effectiveness Date 01-Oct-2014	Expected Closing Date 30-Jun-2019		
Joint IFC No			
Practice Manager/Manager Kulsum Ahmed	Senior Global Practice Director Paula Caballero	Country Director Ellen A. Goldstein	Regional Vice President Laura Tuck

Borrower: Republic of Montenegro			
Responsible Agency: Environmental Protection Agency			
Contact:	Almina Bucan	Title:	Project Manager
Telephone No.:	38220618400	Email:	almina.bucan@epa.org.me

Project Financing Data(in USD Million)					
[X]	Loan	[ ]	IDA Grant	[ ]	Guarantee
[ ]	Credit	[ ]	Grant	[ ]	Other

Total Project Cost:	80.44	Total Bank Financing:	68.90
Financing Gap:	0.00		

Financing Source	Amount
Borrower	11.54
International Bank for Reconstruction and Development	68.90
Total	80.44

Expected Disbursements (in USD Million)

Fiscal Year	2015	2016	2017	2018	2019	0000	0000	0000	0000
Annual	3.00	9.00	20.00	24.00	12.90	0.00	0.00	0.00	0.00
Cumulative	3.00	12.00	32.00	56.00	68.90	0.00	0.00	0.00	0.00

Proposed Development Objective(s)

The Development Objective of the Project is to reduce contamination of Montenegro's natural resources and public health risks of exposure to this contamination from selected industrial waste disposal sites.

Components

Component Name	Cost (USD Millions)
Remediation of Selected Legacy Industrial Waste Disposal Sites	65.42
Future Industrial Waste Management	1.24
Project Management	1.24
Refinancing PPA	1.00

Institutional Data

Practice Area / Cross Cutting Solution Area

Environment & Natural Resources

Cross Cutting Areas

[ ] Climate Change

[ ] Fragile, Conflict & Violence

[ ] Gender

[ ] Jobs

[ ] Public Private Partnership

Sectors / Climate Change

Sector (Maximum 5 and total % must equal 100)

Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %
Water, sanitation and flood protection	Solid waste management	60		
Industry and trade	General industry and	20		

	trade sector			
Energy and mining	Energy efficiency in Heat and Power	10		
Energy and mining	Other Mining and Extractive Industries	10		
Total		100		

☑ I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.

Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Environment and natural resources management	Pollution management and environmental health	70
Environment and natural resources management	Environmental policies and institutions	30
Total		100

Compliance

Policy

Does the project depart from the CAS in content or in other significant respects?	Yes [ ]	No [X]
Does the project require any waivers of Bank policies?	Yes [ ]	No [X]
Have these been approved by Bank management?	Yes [ ]	No [ ]
Is approval for any policy waiver sought from the Board?	Yes [ ]	No [X]
Does the project meet the Regional criteria for readiness for implementation?	Yes [X]	No [ ]

Safeguard Policies Triggered by the Project	**Yes**	**No**
Environmental Assessment OP/BP 4.01	**X**	
Natural Habitats OP/BP 4.04		**X**
Forests OP/BP 4.36		**X**
Pest Management OP 4.09		**X**
Physical Cultural Resources OP/BP 4.11		**X**
Indigenous Peoples OP/BP 4.10		**X**
Involuntary Resettlement OP/BP 4.12	**X**	
Safety of Dams OP/BP 4.37	**X**	
Projects on International Waterways OP/BP 7.50	**X**	

Projects in Disputed Areas OP/BP 7.60		**X**

Legal Covenants

Name	Recurrent	Due Date	Frequency
Institutional Arrangements	**X**		Quarterly

Description of Covenant

Section I.A.1 LA (summary) - Borrower obligations: to carry out the Project through the MSDT, EPA with assistance of the TSU, with POM and Safeguards Instruments and not to amend the same; maintain the PMU in form and with functions etc. satisfactory to the Bank; maintain adequate staffing with procurement capacity; maintain Project Steering Committee.

Name	Recurrent	Due Date	Frequency
Project Site Industry Arrangements (Pljevlja site)	**X**		Yearly

Description of Covenant

Section I.B.1 LA (summary) - Prior to signature of remediation works contract for the Pljevlja site, the Borrower has (i) entered into satisfactory legal arrangements with EPCG (incl. terms set forth in LA); (ii) complied with safeguards covenants; and (iii) works on the Sumane Site have been completed satisfactorily and the site is ready to receive coal ash.

Name	Recurrent	Due Date	Frequency
Project Site Industry Arrangements (KAP sites)	**X**		Yearly

Description of Covenant

Section I.B.2 LA (summary) - Prior to signature of remediation works contract for the KAP Site, the Borrower has (i) entered into legal arrangements with KAP or the successor owner of the sites under terms approved by the Bank (incl. those set forth in the LA); and (ii) complied with the safeguards covenants on updating ESIA and EMP.

Name	Recurrent	Due Date	Frequency
Safeguards	**X**		Quarterly

Description of Covenant

I.D.1 LA (summary) - Carry Project out in accordance with the Safeguards Instruments and not amend or waive etc. thereof without prior Bank approval.

Name	Recurrent	Due Date	Frequency
Safeguards - ESIAs, EMPs, RAP	**X**		CONTINUOUS

Description of Covenant

I.D.2 LA (summary) - Prior to signature of the civil works contracts for remediation measures on each of the Project Sites update the ESIAs and EMPs for the relevant Project Site and the Sumane disposal site, as applicable, to the design of the works, satisfactory to the Bank; incl. consultations, disclosure and all required national permits etc. and prepare RAP, if required, for the Sumane Site.

Name	Recurrent	Due Date	Frequency
Safeguards - Safety of Dams	**X**		Quarterly

Description of Covenant

Section I.D.3 LA (summary) - Compliance with dam safety requirements for activities related to dam and slope safety and stabilization.

Name	Recurrent	Due Date	Frequency
Safeguards - Technical Assistance activities	X		Quarterly

Description of Covenant

Section I.D.4 LA (summary) - For TA under Part 2 of the Project, TORs for any consultancies related to the TA to be satisfactory to the Bank and shall require that the advice conveyed and documentation prepared through such TA be consistent with the requirements of the Bank's Safeguards Policies.

Name	Recurrent	Due Date	Frequency
Aftercare	X		Yearly

Description of Covenant

I.B.3 LA (summary) - Following remediation, Borrower shall be responsible for aftercare, maintenance and monitoring on the KAP and Gradac sites, incl. adequate budget; and only assign such responsibilities in joint agreement w/the Bank; for Bijela site Borrower to ensure that Bijela maintains alternative satisfactory arrangements for ongoing waste disposal and in compliance with applicable national legislation.

Conditions

Source Of Fund	Name	Type

Description of Condition

Team Composition

Bank Staff

Name	Title	Specialization	Unit
Aleksandar Crnomarkovic	Sr Financial Management Specialist	Financial Management Specialist	GGODR
Bekim Imeri	Social Scientist	Social Safeguard Specialist	GURDR
Nikola Kerleta	Procurement Specialist	Procurement Specialist	GGODR
Sydnella E. Kpundeh	Senior Program Assistant	Senior Program Assistant	GENDR
Sanela Ljuca	Operations Officer	Operations Analyst	ECCBM
Linh Van Nguyen	Program Assistant	Program Assistant	GENDR
Wolfhart Pohl	Adviser	Dam Safety Expert	GCFDR
Frank Van Woerden	Senior Environmental Engineer	Team Lead	GENDR

Katelijn Van den Berg	Senior Environmental Economist	Co-TTL	GENDR
Dragana Varezic	Program Assistant	Program Assistant	ECCBM
Natasa Vetma	Senior Environmental Specialist	Environmental Safeguards Specialist	GENDR

Non Bank Staff

Name	Title	City

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments
Montenegro		Various sites	x	x	

I. STRATEGIC CONTEXT

A. Country Context

1. Montenegro is a small (population 625,266, per 2011 population census), and relatively young country (formerly part of Yugoslavia; regained its independence in 2006). Given a per capita income of nearly US$7,260 in 2013, Montenegro is an upper middle-income economy with recently increased levels of poverty from 4.9 in 2008 to 11.3 in 2012. EU member states (together with Russia) account for a significant proportion of foreign direct investment (FDI). Montenegro was granted the status of EU candidate country in November 2010 and the negotiations for EU membership have been initiated in June 2012. Moving closer to EU accession, Montenegro will need to significantly increase its competitiveness and review its policies to reduce costs, strengthen investment climate and attract FDIs.

2. Montenegro has made significant progress in its transition towards a market economy. Real Gross Domestic Product (GDP) growth averaged 4.2 percent during 2006-2011 with inflation in the low single digits (below 4 percent). These numbers compare well with the countries that joined the European Union (EU) in May 2004 (EU8) as well as with EU15 countries. Montenegro's economy remains highly susceptible to economic developments elsewhere which contributed to a post-independence episode of a full boom-bust cycle. While GDP growth in 2006-2008 averaged nearly 9 percent per annum, 2009 was marked by a severe recession due to the global economic and financial crisis which led to a GDP contraction of 5.7 percent, followed by GDP growth of about 2.5 percent in 2010 and 2011. However, in 2012 the economy contracted again by 2.5 percent. Inflation rose from 0.5 percent in 2010 to 4 percent in 2012, driven by the rise in global commodity prices and excise taxes. Growth resumed in 2013 estimated at a preliminary 3.5 percent, led by tourism-related investments and energy production.

3. The key sectors of Montenegro's open economy —and potential growth engines over the longer term— include tourism, service, and other knowledge-driven industries. Montenegro's energy sector could also become an important source of growth and exports provided that environmental impacts can be adequately contained. The economic relevance of the heavy metal and associated industries and services (mining, railways, and harbor) has declined, owing to deteriorating competitiveness. The share of small and medium enterprises (SMEs) has constantly increased, but these firms remain focused on the domestic market and need to become more regionally competitive.

4. Considering this context, the Government of Montenegro (GOM) needs to carefully balance economic opportunities and fiscal, social, and environmental sustainability risks. Following Montenegro's decision to adopt the Euro as its only legal currency, growth can neither be stimulated by exchange rate or monetary policies nor by credit-financed aggregate-demand stimuli akin to those fueling the post-independence boom. In the future, growth will have to come from within, driven by entrepreneurship, innovation and increasing productivity and competitiveness.

5. The twin objectives of increasing potential economic growth and international competitiveness place the management, sustainable use and protection of natural resources, which are Montenegro's greatest assets and crucial for the tourism industry, high on the political

agenda. As a starting point, Montenegro will need to secure substantial capacities and financing to address the current environmental and industrial legacy hot spots. The partnership between the Government of Montenegro (GOM) and the World Bank can provide the support needed to bring industrial waste site remediation and sustainable waste management as one of the key underlying principles of future economic growth in the tourism sector of Montenegro. This will also support Montenegro as it moves closer to EU accession, since it will directly help the GOM develop the capacity to meet the EU Acquis standards in a number of areas: health, environmental protection, and competitiveness.

B. Sectoral and Institutional Context

6. Advancing further in the EU integration process in compliance with the EU's Environmental Acquis, Montenegro will need to continue harmonizing policies and practices in waste management with EU requirements. Progress so far has mostly been made in creating legal and institutional pre-conditions for improving solid waste management, primarily by developing the Strategy and Master Plan for Waste Management (2005) and adopting the Law on Environment (2008) and supporting legislation. For the Project, most relevant in this respect is the adoption in 2011 of the Law on Integrated Pollution Prevention and Control (IPPC). This is considered a full transposition of the EU IPPC Directive and the adoption of the Waste Management Law in December 2011, which resulted in a 95% score for transposition of the legislation under the EU Waste Framework Directive and subordinate directives. The Environmental Protection Agency (EPA) has been established in 2008.

7. When it comes to industrial waste management (both hazardous and non-hazardous) and the management of other categories of hazardous waste, environmental regulations and implementation capacities remain weak and disposal and treatment practices are below EU and international standards. Disposal sites associated with heavy industries have become heavily polluted as no appropriate environmental protection measures have been implemented during decades of operation. In addition to this legacy pollution, some of the involved industries still continue poorly controlled waste disposal operations. It is expected that IPPC permits in line with EU requirements that will become effective in Montenegro during the period of 2012-2014 for the larger industries will substantially improve treatment and disposal practices for ongoing waste generation in the country. These industries now have to commit to implement environmental control measures based on EU reference documents for Best Available Techniques (BAT). To underpin this requirement, the industries need to adopt investment schemes which are fully part of the permits to mitigate shortcomings and bring current practices of uncontrolled or poorly controlled waste disposal to an end.

8. The existing main industrial waste disposal sites in their current state, containing materials such as coal ash, lead, other heavy metals and hazardous waste, pose risks not just to the immediate environment, but also to the public health of surrounding communities, through groundwater contamination and other pathways. These risks are amplified for some of these sites (Aluminum Plant KAP, Shipyard Bijela) since these are in zones of seismic risk. Also, the area around Skadar Lake, where the Aluminum Plant KAP is located, has experienced serious flooding with two record-breaking floods in January and December 2010, and flooding could become more frequent and severe under predicted climatic shifts.

9. Some of the polluted sites are located not far from the country's most valuable natural resources[1], important from both environmental and economic point of view. The aluminum plant KAP is in the vicinity of Lake Skadar,which is a national park, and a Ramsar site under the Convention on Wetlands of International Importance, the most important watershed in Montenegro and the largest (and trans-boundary) lake in the Balkans. The Shipyard in Bijela is on the Adriatic Coast, in the Boka Bay and 20-30 kilometers away from tourist centers of Budva, Herceg Novi and Kotor. The Old City of Kotor, together with part of Kotor Bay, is a UNESCO protected site.

10. While no nation-wide comprehensive inventory of small and medium sized (hazardous) waste generators has been undertaken , Montenegro has an inventory of industrial and hazardous waste stockpiles and sites where these types of waste have been dumped. Within this inventory, the GOM had originally identified five sites to be considered of highest priority for remediation because of their large size and either proximity to valuable natural resources or association with heavy industries, which make it necessary to bring the historic and ongoing waste management in line with Montenegrin legislation and EC Directives. The five priority sites are: (i) the mine tailings disposal site in Gradac; (ii) the coal ash facility in Pljevlja; (iii) the Bijela shipyard; (iv) the industrial waste disposal area in Niksic; and (v) the solid waste disposal area and red-mud basins on the KAP site. During preparation of this Project, these five sites were closely investigated and most practical and effective approaches were defined for each site with the required investment budgets for remediation. It was during these investigations that the GOM decided not to include the site in Niksic for inclusion in the Project's remediation program because it is privately owned and the current owner is actively involved in commercial waste processing activities. The remediation investments identified for the other four sites (in Bijela, Pljevlja, Gradac and the KAP site) are included in the scope of the Project.

C. Higher Level Objectives to which the Project Contributes

11. The Country Partnership Strategy for the period FY11–FY14 has been developed following extensive consultations with the Montenegrin counterparts to reflect the country's well-defined development priorities and focus the Bank's interventions under two main priority areas as follows:

- Priority 1 – Support EU accession through strengthening institutions and competitiveness; and
- Priority 2 - Improving environmental management and reducing the costs of environmental problems.

12. Montenegro has requested Bank's assistance in developing an industrial waste remediation and management program with the objective of reducing environmental and health risks associated with Montenegro's legacy of industrial pollution.

[1] The project sites are brownfield locations and none of them are located within the referred natural parks or areas, hence the Bank policy on Natural Habitats, OP4.04 is not triggered (see Environment Section of the Appraisal Summary).

II. PROJECT DEVELOPMENT OBJECTIVES

PDO

13. The Development Objective of the Project is to reduce contamination of Montenegro's natural resources and public health risks of exposure to this contamination from selected industrial waste disposal sites.

14. The Project will achieve its objective through: (i) the development and implementation of a remediation investment program for selected legacy industrial waste disposal sites; and (ii) related to these interventions, supporting institutions and the related industries in bringing the management of industrial hazardous waste in compliance with Montenegrin legislation.

15. With support of this Project, the selected sites will be fully remediated and future hazardous waste from industries related to these sites will be disposed in compliance with Montenegrin and EU legislation. Strengthening the regulatory framework and supporting the development of infrastructure for management and proper and sustainable disposal of ongoing industrial hazardous waste production --that will also benefit other waste generators-- are important elements of the Project.

16. The risks mentioned in the PDO are related to the exposure or potential exposure of people in the vicinity of waste disposal sites to airborne pollutants (most commonly in the form of dust generation) and contamination of soil, groundwater and surface waters from infiltration of pollutants or mechanisms such as run-off water and erosion. Exposure levels and related risks are notoriously difficult to measure. Therefore, it is good international practice to implement technical mitigation measures that block exposure paths between polluting objects and recipients and eliminate further emissions from these objects, rather than try and attempt to develop tailored measures to reduce exposures to 'acceptable' levels. This approach of blocking exposure paths and thus eliminated exposure risks is the basis for the results indicators adopted for the Project and in line with the Bank's Core Sector Indicators as defined for environmental cleanup projects.

Project Beneficiaries

17. The project beneficiaries would include:

(a) Communities neighboring currently poorly managed legacy pollution sites, which would benefit from reduced exposure to potential public health risks related to the inadequate management of industrial waste;

(b) National industries, which would benefit from the cleanup of legacy waste disposal sites that are now related to their facilities;

(c) Government institutions with responsibilities in the domain of industrial (hazardous and non-hazardous) waste management, who will get support to further develop the

regulatory framework and instruments to execute these institutional roles adequately; and

(d) The tourism and services industry in Montenegro, which will benefit from reduced risks of pollution of natural resources and the elimination of open and visible industrial disposal sites.

PDO Level Results Indicators

18. Key Monitoring Indicators for the Project are:

(a) Contaminated land managed or (industrial) dump sites closed under the Project (hectares)[2];

(b) Reduction of pollution exposure paths by remediation measures (number of pollution exposure paths eliminated);

(c) Number of industries related to the priority industrial waste disposal sites, with arrangements for ongoing waste disposal in compliance with national legislation for solid waste management.

III. PROJECT DESCRIPTION

A. Project Components

19. The Project consists of three components as summarized below. More details are provided in Annex 2 (Detailed Project Description).

Component 1 – Remediation of Selected Legacy Industrial Waste Disposal Sites (US$ 65.42 million equivalent)

20. This component will finance the detailed design, construction, and supervision for the remediation of the Project Sites, including through the following measures: slope and dam stabilization; coverage; containment cells; in-site encapsulation; re-shaping; re-vegetation; drainage and other water management investments including groundwater management measures, if needed; and removal (including export) of hazardous and non-hazardous waste.

21. This component will support investments to remediate the four selected first-priority waste disposal sites (the mine tailings disposal site in Gradac; the coal ash disposal facility in Pljevlja; the Bijela shipyard; and the solid waste disposal area and red-mud basins on the KAP site). The feasibility study with site investigations, Environmental and Social Impact Assessment (ESIA) and basic designs were completed for all four sites during project preparation and financed by the Project Preparation Facility. A mix of most adequate remediation measures have

[2] One of the Bank's Core Sector Indicators for Pollution Management and Environmental Health

been identified and developed for the four selected sites:

(a) *Mine tailings disposal facility Gradac – Pljevlja*. The 12.5 ha disposal facility in Gradac contains tailings (inert residues) from former zinc-lead ore flotation processing. The selected remediation option comprises of in-situ slope stabilization and full encapsulation with reshaping, top cover and re-vegetation. Water management is based on prevention of infiltration into the tailings body and diversion of run-off water.

(b) *Coal ash disposal facility Pljevlja*. This 53.5 ha facility for disposal of ash from the lignite fired power plant in Pljevlja is owned and operated by EPCG, the Montenegrin state-owned power company. The selected solution for closure and remediation of the ash disposal facility in Pljevlja is comparable to the preferred option in Gradac: reshaping, drainage, encapsulation with re-vegetation and investments in water management.

(c) *Ship blasting waste and site contamination at Bijela shipyard.* This shipyard is located at the Boka Bay and has an estimated volume of 60,000 tons of contaminated blasting grid stored in big bags. Blasting grid is used for ship paint stripping and cleaning and the historic volumes of blasting grid containing heavy metals should be considered as hazardous waste. Due to reduction of heavy metals in ship paints, the more recently produced blasting grid is not considered as hazardous waste anymore. The earlier bulk storage of this material has caused soil pollution in an area of around 1.5 ha and it is expected that excavation works necessary for the redevelopment of the site will generate an estimated volume of 40,000 tons of contaminated soil and 7,200 tons of contaminated sediments. Remediation consists of the removal of the contaminated blasting grit (hazardous waste) and the volumes of excavated contaminated soil from the site to meet redevelopment standards. The contaminated soil volumes are classified as non-hazardous waste and qualify for disposal within Montenegro in one of the municipal waste landfills in the country that meets the standards of the national waste law and the EU Landfill Directive. The large volume of blasting grit is expected to be exported in compliance with the Basel Convention.

(d) *Red-mud basins and solid waste disposal site at KAP*. Red-mud is a by-product from the processing of bauxite in the alumina production, the main input material for the electro-chemical production of aluminum. It is the high alkalinity of the red-mud that causes high mobility of some heavy metals but also cyanide, fluoride and aromatic hydrocarbons from the basins are found in soil and groundwater. In time, without adding fresh red mud, the pH gradually decreases to more neutral levels, reducing environmental risks. The proposed remediation consists of draining basin water after treatment, reshaping, covering and stabilizing the impoundment slopes.

The solid *waste disposal site of 11 ha at KAP* contains both hazardous and non-hazardous waste. Also this disposal site has been a substantial source of soil pollution, although disposal practices in recent years have somewhat improved because now waste categories are sorted and stored separately with hazardous

materials stored on concrete surfaces, but still in the open and exposed to weather conditions. Remediation is costly due to the special nature of the waste, which contains toxic materials that require tailored techniques for containment and the fact that all materials needs to be removed, sorted and put in special cells for final disposal. To facilitate the disposal of future hazardous waste from KAP's aluminum production, which is in principle the largest single source of hazardous waste production in the country, the remediation containment will designate a compartment that will not be closed as a separate cell for ongoing waste disposal with the same environmental protection standards to receive this waste.

22. The investments under this component will result in sites that are fully stabilized and have stopped posing significant impacts on natural resources and the environment with limited requirements for aftercare monitoring and maintenance. Total remediation costs for the four sites are estimated at EUR 47.47 million (or US$65.42 million equivalent).

23. During project preparations and financed from the Project Preparation Facility, site investigations, feasibility studies, the conceptual designs for the remediation works and site specific ESIAs were prepared for the four selected sites. Implementation will start with the preparation of the bidding documents for each site, with a detailed design for the remediation works and, in parallel, an updated environmental assessment for national environmental and construction permitting purposes, in line with the approved EMP that was prepared during project preparation and satisfactory to the Bank. It is expected that works at the Bijela shipyard and the Gradac tailings facility could start in the first year of implementation. With the need to first conclude implementation arrangements between the Government and KAP and to make the alternative ash disposal site operational for the Pljevlja site, works for the two latter sites may only start in the second year of project implementation (see Annex 3: sub-section 'Arrangements with industries related to the four remediation sites').

Component 2 – Future Industrial Hazardous Waste Management (US$ 1.24 million equivalent)

24. This component will support the Borrower and industries involved with management of the Project Sites in managing future industrial hazardous waste generation in a manner compliant with national and EU legislation, in strengthening the Borrower's institutional and regulatory capacities in the field of industrial hazardous waste management, and in exploring options for developing infrastructure for industrial hazardous waste disposal at the national level, including through, but not limited to, the following activities: (a) support for the development and implementation of a national industrial hazardous and non-hazardous waste register; (b) support for the carrying out of training, workshops, information and awareness campaigns to increase awareness of waste generators regarding separation of waste streams, interim storage requirements in line with EU legislation, and reporting obligations; and (c) support for the planning and national permitting process for the realization of infrastructure for management and disposal of future industrial hazardous waste from waste generators in the Borrower's territory.

25. This component will support actions of the government and industries related to the remediation sites under Component 1 managing future industrial hazardous waste generation in a

manner that complies with national and EU legislation, since three out of the four identified priority sites are still in use for waste disposal from current industrial operations. This component will also include an analysis of the possibility to allow acceptance of third party hazardous waste of similar characteristics on the KAP site (in the waste disposal cell to be constructed under Component 1 for future waste from KAP) and support the required planning process with detailed design work. Given the small quantities generated in Montenegro, other options such as export of waste or a different location for such infrastructure will also be analyzed. If the construction of a national hazardous waste facility would not be combined with remediation at the KAP site, but would be located at an alternative site, its construction will not be part of the Project.

26. In order to deal with the recontamination risk of the remediated sites, the civil works at any of the selected legacy industrial sites for waste disposal can only start if the industries that formerly used the site for waste disposal have halted this practice and developed and made operational alternative disposal destinations or found other solutions for their waste in compliance with national legislation and satisfactory to the Bank. For the three industries related to the priority industrial waste disposal sites that are generating waste, the Project will support the required arrangements for ongoing waste disposal in compliance with national legislation for solid waste management.

27. The detailed overview for each of the industrial sites in regard to the possible future waste generation related to these sites is as follows:

(a) *Mine tailings disposal facility Gradac – Pljevlja*. As there is no ongoing waste disposal on this site, no arrangements for future waste are required.

(b) *Coal ash disposal facility Pljevlja.* The power company EPCG is in the process of acquiring a planning permit for a new ash disposal facility (called the 'Sumane site') which should be operational in 2014 or 2015. This development started prior to project preparation, because the current disposal facility which is to be remediated under the Project is running out of disposal capacity. The facilities of the new Sumane disposal site will need to be adequate to accommodate and receive coal ash and be operational before the remediation works on the Pljevlja disposal site will start.

(c) *Ship blasting waste and site contamination at Bijela shipyard*. Bijela shipyard has already established alternative contractual arrangements for future waste disposal in line with applicable legislation prior to negotiations.

(d) *Red-mud basins and solid waste disposal site at KAP*. A legal arrangement will be established between the Borrower and KAP (or the successor owner of the site) that no further red mud will be disposed in the basins, a practice that already stopped several years ago with the discontinuation of alumina production. As mentioned, the Project includes under Component 1 the addition of an active industrial hazardous waste cell together with the site remediation activities offering an alternative proper waste disposal outlet for potential future KAP waste.

28. As stated above, in addition to the support for proper arrangements for future hazardous waste for the industries related to the priority sites to be remediated under the Project, the component will also support the further development and implementation of the national industrial hazardous[3] and non-hazardous waste register which will be an integral part of the Environmental Information System as well as workshop and trainings for industrial waste generators regarding separation of waste streams and proper interim storage requirements in line with EU legislation as well as reporting obligations.

Component 3 – Project Management (US$ 1.24 million equivalent)

29. This component will support Project management and capacity building at EPA, including establishment of the PMU, and support for project monitoring and evaluation, including establishment of a monitoring and evaluation system, funding of audits, training, equipment, consultants' services, and incremental operating costs.

B. Project Financing

Lending Instrument

30. The lending instrument for this project is a Specific Investment Loan (SIL). The Project will be financed by an IBRD Loan of Euro 50.0 million (US$68.9 million equivalent). Retroactive financing not exceeding EURO 50,000 equivalent will be allowed for payments made on or after April 10, 2014 for eligible expenditures.

C. Lessons Learned and Reflected in the Project Design

31. Multiple similar projects have proven the importance of comprehensive site investigations and the thorough understanding of (environmental) baseline conditions they bring at the feasibility study stage. Therefore, a Project Preparation Advance of US$ 1.0 million was established to finance the feasibility studies and ESIAs and to provide sufficient budget to perform comprehensive site investigations into the chemical features of the disposed materials on the sites, the environmental conditions of the site areas including groundwater contamination levels and adequate geological and geo-technical investigations. The collected data set of site conditions is important to assess environmental risks as a basis for design and define adequate control measures and required budgets for the remediation program.

32. Some of the priority waste disposal sites are still in use for ongoing waste disposal. It is essential that this practice cease before the remediation works starts and that arrangements are in place to put a halt to further waste generation, or that alternative and environmentally adequate outlets for this waste are identified and made operational. The legal basis to ensure proper disposal of future waste for the related industries is that by 2014 all relevant industries in

[3] The Government of Montenegro has already made appropriate regulations and rulebooks and issued adequate legislation (Law on waste management, 2008, art.44; Law on Environment, 2008, art.40) to set up a reporting system with necessary forms.

Montenegro will have to obtain an IPPC (Integrated Pollution Prevention and Control) permit in line with national legislation and based on the underlying EU legislation. In addition, for possible future KAP waste, infrastructure for management and disposal of hazardous waste for possible future industrial waste from KAP will be realized in combination with the remediation activities under Component 1. A special case is the future coal ash disposal of EPCG in Pljevlja where, due to the large ash volumes, a local and dedicated disposal facility is required. EPCG is currently in a process of planning, detail design and obtaining a permit to develop a new ash disposal facility which will be made operational to enable the closure and remediation of the existing facility. In the case of Bijela, the waste grit which is currently being produced does not have the same properties as older grit and has been defined as non-hazardous, in accordance with the EU waste catalogue, and is suitable for disposal at one of the general sanitary waste disposal sites in Montenegro, where it will be transported to and disposed.

33. In the past, several Bank funded projects in Montenegro needed extensions which to a certain extent where caused by issues that were not or not fully identified during project preparation. Therefore, in addition to the site investigations, design work and determinations of safeguards requirements financed from the PPA, much emphasis was given to a thorough analysis of the legal background of the project sites, stakeholder identification and making sure that for the project sites conditions are met to start works in the first year of implementation, or (in the case of two sites) these have been minimized and remaining conditions to be met have been carefully assessed and included in the Loan Agreement.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

34. The Project is expected to be implemented over a period of almost five years, from October 2014 until June 30, 2019. The Environmental Protection Agency (EPA) under the Ministry of Sustainable Development and Tourism (MSDT) will be the project implementation agency and would have the overall responsibility for project implementation. The EPA is a national agency that is competent in the field of protection of the environment.

35. The EPA will have a Project Management Unit (PMU) for day-to-day project implementation with technical support of other EPA departments. The following key positions have already been appointed from EPA staff and are therefore already in place: Project Manager and Communication Officer; and the Project Monitoring and Evaluation Officer. The other two positions, Environmental Specialist/Civil Engineer and Waste Management Specialist will be recruited in a tendering process. The procurement and financial management responsibilities of the Project would rest with the staff of the Technical Service Unit (TSU) within the MOF which has already been in charge of fiduciary arrangements for another four Bank-financed projects. The PMU will be responsible for coordinating project implementation with the concerned Ministries with the support of the Director of the EPA.

36. The Project Steering Committee (PSC) which has been established at the time of the preparation of the Project would continue to provide advice, monitor Project execution and oversee coordination between EPA and local and central government authorities as well as

involved industries. The key responsibilities of the Steering Committee will be:

(a) Supervise project implementation and review the detailed design results and coordinate the activities of the agencies involved in the various components of the Project.

(b) Enable the key decisions regarding the project implementation, especially those related to the areas outside of the direct competences of the Environmental Protection Agency and the Ministry of Sustainable Development and Tourism, specifically the final industrial waste sites to be included for financing from the Loan.

(c) Ensure that decisions and actions by the Montenegrin institutions and stakeholders, including the industrial stakeholders, as appropriate, are taken in a timely fashion and that their adoption and implementation are facilitated.

37. The PSC includes representatives at deputy minister level from the Ministry of Sustainable Development and Tourism; the Ministry of Agriculture, Forestry and Water Management; the Ministry of Economy; and the Ministry of Finance; the Director of the Environmental Protection Agency (EPA) and a representative of NGOs in Montenegro. The Chair of the PSC will be a Senior Management member of the Ministry of Sustainable Development and Tourism or EPA.

38. In addition to the Project Steering Committee, the Technical Working Group which was already established with representatives from the respective industries related to the remediation sites, independent technical advisors, and technical representatives from MSDT and EPA, will continue, as required, its operation to review the detailed design results at the technical level and facilitate the decision-making within the different participating ministries. Changes to the composition of the Technical Working Group will be endorsed by the Project Steering Committee.

B. Results Monitoring and Evaluation

39. The primary tool for monitoring and evaluation (M&E) is the Results Framework. The PMU of EPA will have a dedicated M&E Officer who will be responsible for day-to-day data collection and reporting of M&E results. Data for monitoring will come from EPA as implementing agency and data on continuing industrial waste generation through EPA from the related industries. There is no existing structured or reliable monitoring system for industrial waste management in Montenegro and a reporting, recording and reporting system within EPA will need to be developed under Component 2 of the Project. Hence, the project has provisions to develop a waste management information system (W-MIS) within EPA in line with EU legislation on classification of waste. The monitoring of the results for the remediation of the contaminated sites will be generated from the supervising engineering reports for the remediation works.

40. The main sources of information for the results monitoring for the remediation of the four contaminated sites will be the supervising engineer's reports for the remediation works and data provided by the works contractors. In addition, under the Project, a monitoring program for each

of the four sites with reporting at least two times per year for the duration of the project will be established to collect and analyze samples of groundwater, soil, dust (when possible or relevant), run-off water, and in the case of Bijela seabed sediment in the operational area of the ship yard, and compare these values with data collected during project preparation. The data series should enable some trend analyses and, at the end of the project, support the assessment that main pollution exposure paths between the four sites and the surrounding environment have been cut. Finally, EPA will make sure that a qualified expert, independent from the works contractors and acceptable to the Bank, will review the remediation designs for the four sites before the works start and at the end of the project review the integrity of the remediation works at the four sites to confirm that all main pollution exposure paths have been cut.

C. Sustainability

41. The authorities in Montenegro have demonstrated ownership and commitment to the proper remediation of the selected historic sites through: (i) requesting a Project Preparation Facility Advance (US$1.0 million) for detailed site investigations into the environmental impact of current legacy sites and most suitable remediation options and site specific ESIAs; (ii) implementing measures to fulfill the commitments under the EU Environmental Acquis in particular the Directive on Integrated Pollution Prevention and Control (IPPC) and upcoming Industrial Emission Directive.

42. For two industries (EPCG for their operations in Plevlja, and for KAP in Podgorica) related to the sites earmarked for remediation under the project, the GOM will require[4] IPPC permits for the adequate management of waste streams in a manner in line with national and EU legislation and thus will support assurance of the discontinuation of (unregulated) waste disposal to the sites prior to the start of remediation works.

V. KEY RISKS AND MITIGATION MEASURES

A. Risk Ratings Summary Table

Risk	Rating
Stakeholder Risk	High
Implementing Agency Risk	
- Capacity	Substantial
- Governance	Moderate
Project Risk	
- Design	Moderate
- Social and Environmental	High
- Program and Donor	Moderate
- Delivery Monitoring and Sustainability	High
Overall Implementation Risk	High

[4] Deadlines for acquiring an IPPC permit for relevant industries (including EPCG and KAP) have been set for each relevant industry individually in Montenegro law on IPPC.

B. Overall Risk Rating Explanation

43. The overall Implementation Risks are rated as High due to the stakeholder risk, social and environmental risks and delivery monitoring and sustainability risks; the ORAF in Annex 4 provides more details.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analyses

44. A cost effectiveness analysis has been undertaken for Component 1 – Remediation of Selected Legacy Industrial Waste Disposal Sites. Based on detailed technical and environmental site investigations, identification of the key environmental impacts of each of the sites and accompanying risk assessment of most notable impact on air, surface and/or groundwater and exposure paths, at least three different design options for remediation were developed for each of the sites. Options were compared based on cost estimations and the basic technical, environmental, social and legal properties of each option for all sites, with pros and cons of each option elaborated. For each of the sites, the most cost effective option allowing for remediation of the site thereby cutting the exposure path of the pollutants to the environment was chosen and further developed.

45. For the realization of the infrastructure for management and disposal of hazardous waste for possible future industrial hazardous waste from KAP, a financial analysis has been undertaken. The objective is for the government to provide a suitable outlet for the receipt and disposal of possible future hazardous waste materials from KAP for which also exporting solutions are too costly. Applicable gate fees for the disposal ranges from EURO 45 per ton to EURO 100 per ton which is comparable to hazardous waste tariffs applicable elsewhere in Europe.

B. Technical

46. The technical solutions for the remediation investment program are basic, robust and well-proven approaches to stabilize and encapsulate waste materials onsite in a manner that prevents further contamination of natural resources and the environment by blocking paths and mechanisms for infiltration of contaminants into the underground and preventing risks of dust generation. Each solution pays close attention to water management at and around the site to prevent erosion and potential structural instability of the remediated sites. An important factor is robustness of the solution to minimize the need for intensive monitoring and maintenance after remediation has been completed. Therefore in some cases not the cheapest solution was selected. Removal of all contaminated materials is not an option for most sites due to prohibitive costs. Only in the case of the contaminated grit at the Bijela shipyard and some special categories of waste at the KAP site removal of these materials is the preferred solution due to the limited amount of the waste, their specific characteristics and difficulties of planning for disposal capacity development for these waste streams inside Montenegro.

47. The remediation approaches and the required budgets for the project have been defined based on feasibility studies and a conceptual design of the remediation works. Implementation of the project will commence with the preparation of detailed design as a basis for works bidding documents. For all sites during project preparation and as part of the feasibility studies which were financed by a Project Preparation Facility, comprehensive site investigations have been conducted to identify potential environmental risk and limit the chance of unforeseen issues that may come up during the detailed design stage that would affect the chosen remediation approach and the budget of the program.

C. Financial Management

48. The Technical Service Unit (TSU) will be in charge of financial management of the project. The implementing entity will maintain a financial management system acceptable to the Bank. The annual audited project financial statements and audit report will be provided to the Bank within six months of the end of each fiscal year. It was agreed that the State Audit Institution (SAI) will conduct a pilot audit of the Bank project, namely the PPA for the Project. Subject to successful conduct of that audit and the agreement between the Bank and the SAI about the future arrangement for audits of the Bank project, the Project (the loan) will also be audited by the SAI. In case that the audit of the PPA does not meet the Bank standards, or that in discussions with the SAI it is concluded that adding this assignment is too much of a burden given their broad scope of work and limited number of staff, the Bank reserves the right to switch back to require audit of the project done by one of the approved audit firms. The audits will be conducted in accordance with terms of reference acceptable to the Bank.

49. Interim unaudited financial reports (IFRs) will be submitted to the Bank in the agreed format 45 days after the end of each calendar quarter throughout the life of the project. The existing accounting system, policies and procedures in the TSU are acceptable to the Bank.

50. For the purposes of the project, separate designated account (or sub-account within the TSU) to be used solely for the project purposes will be opened in the Central Bank or an acceptable commercial bank, in order to ensure transparency and visibility of project funds.

51. System of internal controls within the TSU is assessed to be reliable and covers all relevant areas. It will be largely used for project implementation and supplemented with additional controls and procedures in the Operations Manual for the project. The additional controls and procedures are intended to fill in any gaps in the existing system and appropriately reflect the project specifics.

D. Procurement

52. A Bank Procurement Specialist carried out an assessment of the Implementing Agency's capacity to carry out procurement actions for the Project. The assessment reviewed the following organizational structure for implementing the Project, and the interaction between the Project's staff responsible for procurement and the Ministry's agency for administration of the Project.

53. A Project Management Unit (PMU), established within the EPA, is going to serve for day-to-day project implementation, and to coordinate the project procurement and financial management activities with the Technical Service Unit (TSU). The TSU established within the Ministry of Finance would oversee all procurement and financial management activities related to the project. The TSU is staffed by a Senior Procurement Specialist, Senior Finance Officer, Procurement Specialist and Finance Officer.

54. The key issues and risks concerning procurement for implementation of the Project have been identified and include the fact that Procurement Officers, at the moment of assessment, have been overloaded. It is noted, however, that recently at the end of 2012 one of the five projects under their responsibility has been closed. In order to build and maintain strong procurement management capacity in the TSU, the following actions are recommended:

- the relevant staff involved in the procurement management process should attend appropriate trainings organized by relevant institutions or by the Bank;
- the Bank would carry out a brief training session on procurement during the Project launch workshop and would also provide the agency with a full set of the most recent guidelines, bidding, proposal and evaluation documents;
- the Bank would provide subsequent follow-up training sessions on procurement as deemed necessary.

55. The Borrower has developed a draft Procurement Plan which provides the basis for the procurement methods which was agreed between the Borrower and the Project Team at Negotiations and will also be available at the TSU and the Project's database and in the Bank's external website. The Procurement Plan would be updated by the Project Team, as a minimum, annually or as required to reflect the actual project implementation needs and improvements in institutional capacity. Updated Procurement Plans would also be submitted to the Bank for its approval.

E. Social (including Safeguards)

56. The remediation of the Pljevlja ash dump could have associated resettlement around the development of the new Sumane ash deposit site (an associated facility) for which a Resettlement Policy Framework has been developed. Due to the current uncertainty of the exact impacts as well as the phasing of the development of Sumane site, it is not known whether and when there would be a need for resettlement. A detailed assessment to determine whether a deposit of the wet ash disposal at Sumane site could cause the need to resettle houses during the Project's lifetime will be finalized during the phase of detail design, planning and permitting process, when the footprint and the phasing how this footprint will develop will be known. In case resettlement would be required, a Resettlement Action Plan will be prepared in accordance with the Resettlement Policy Framework and Bank policies. Such RAP will take into account the different circumstances of men and women, girls and boys so that all resettlement will respond to gender-related needs in the provision of resettlement options and livelihood compensation.

57. There are no other foreseen potential or actual social negative impacts. The gender dimension of this remediation operation is envisaged to be small, which is typically the case in

environmental cleanup and remediation projects. The project does not add but aims to reduce negative impacts to the environment and the population. Both men and women attended public hearings under the ESIA consultations where issues raised did not particularly relate to gender sensitive concerns.

F. Environment (including Safeguards)

58. The project is classified as Category A under the World Bank Operational Policy 4.01 Environmental Assessment due to nature of project activities, according to the environmental screening and the fact that it deals with several locations containing hazardous waste.

59. During project preparation, the Borrower engaged independent consultants to prepare site specific Environment and Social Impact Assessments (ESIAs) and Environmental Management Plans (EMPs) for the remediation of the industrial waste sites and infrastructure for management and disposal of hazardous waste for possible future industrial waste from KAP and future ash disposal in Pljevlja at the Sumane site due to the closure of the Pljevlja ash dump. The purpose of ESIAs was to assess the existing situation, present technical alternatives for site closure, determine current and future environmental impacts and prepare the associated EMPs to determine the mitigation measures, environmental monitoring plans, institutional arrangements, capacity development and estimated costs for the mitigation measures and monitoring programs for both the construction and operation phases. The documents have been prepared on the basis of national legal requirements as well as applicable Bank safeguard policies.

60. *Environmental Benefits*: The proposed project will substantially improve local environmental conditions around the selected historic waste disposal facilities through the remediation of these sites and the infrastructure for management and disposal of industrial waste from KAP.

61. *Public Consultations and Information Disclosure*: Consultations have been carried out during the ESIA process in two rounds of public hearings during April and July 2012 for the four project locations in Pljevlja, Podgorica and Bijela. The issues raised during these consultations have been incorporated in the ESIA and EMP. Furthermore, feedback to the concerns collected in public consultation have been provided to the concerned groups and documented in the ESIA reports. The ESIA/EMP documents and other project related documents have been disclosed locally through various means (e.g., websites, hard copies made available to stakeholders), as required by national and Bank's policies. The EIA and EMP have been disclosed through Bank's InfoShop on August 8, 2012 and a revised ESIA and EMP, including the associated Sumani Ash Facility development facility has been disclosed in January 23, 2013.

G. Other Safeguards Policies Triggered

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (OP/BP 4.01)	[X]	[ ]
Natural Habitats (OP/BP 4.04)	[ ]	[X]
Pest Management (OP 4.09)	[]	[X]
Indigenous Peoples (OP/BP 4.10)	[ ]	[X]
Physical Cultural Resources (OP/BP 4.11)	[ ]	[X]

Involuntary Resettlement (OP/BP 4.12)	[X]	[]
Forests (OP/BP 4.36)	[ ]	[X]
Safety of Dams (OP/BP 4.37)	[X]	[ ]
Projects on International Waterways (OP/BP 7.50)	[X]	[]
Projects in Disputed Areas (OP/BP 7.60)	[ ]	[X]

62. In view of dam and impoundment heights (15m or more), the Safety of Dams (OP/BP 4.37) Policy applies to the industrial waste disposal sites of Gradac (mine tailings), KAP (red-mud basins) and Pljevlja (coal ash disposal). During project preparation site investigations and preliminary dam / slope stability and risk assessments have been conducted for these sites and stabilization measures identified that are incorporated in the remediation designs of these sites. A review by one of the Bank's dam safety specialists confirmed that provisions of the Policy for existing dams apply to the three dams of the Project as these dams are not considered to have special hazards that would require a regime for high-risk dams. The final independent monitoring and review actions for implementation in compliance with the Safety of Dams policy and for inclusion in the Loan Agreement were determined during project appraisal.

63. It was assessed that all activities envisaged under Component 1, beside remediation of the Lead and Zink Tailing Ponds in Gradac might affect international waterways as indicated in the Bank policy on International Waterways (OP 7.50). The KAP red-mud basins present a current risk due to potential leakages of alkaline waters to local groundwater and to the Moraca and Cijevna Rivers which are tributaries of Skadar Lake. For this reason, the Government of Montenegro sent a notification letter on March 6, 2013 regarding this investment to notify the Government of Albania as the Skadar Lake basin is shared with Albania to which no comments were received. For the remaining remediation activities that could involve the use or potential pollution of international waterways under OP 7.50 envisaged under Component 1 a notification exception under paragraph 7 of OP 7.50 was sought and approved as the works will not adversely affect the quantity or quality of water flow to any riparian states, and will not be aversively affected by the other riparians' possible water use and it was determined that the works qualified as rehabilitative in nature and therefore as on-going scheme as referred to in the OP 7.50. More importantly, the envisaged works will minimize risk of pollution of the riparians' waters.

While KAP is in the vicinity of Lake Skadar which is at the same time a national park and Ramsar site under the Convention on Wetlands of International Importance; however OP 4.04 is not triggered. The KAP site is not a natural habitat where (i) the ecosystems' biological communities are formed largely by native plants and animal species and (ii) human activity has not essentially modified the area's primary ecological functions. The KAP site is an industrial estate which has substantial environmental issues and is a brownfield area. These environmental issues will be remediated under the Project (see Annex 2 for more detailed description of the KAP site and the key environmental issues).

Annex 1: Results Framework and Monitoring

Country: Montenegro

Project Name: Montenegro Industrial Waste Management and Cleanup Project (P122139)

Results Framework

Project Development Objectives

PDO Statement

The Development Objective of the project is to reduce contamination of Montenegro's natural resources and public health risks of exposure to this contamination from selected industrial waste disposal sites.

Project Development Objective Indicators

Indicator Name	Core	Unit of Measure	Baseline	Cumulative Target Values					Frequency	Data Source/ Methodology	Responsibility for Data Collection
				YR1	YR2	YR3	YR4	End Target			
Contaminated land managed or (industrial) dump sites closed under the Project	**X**	Hectares	0	1	6.5	54	110	110	Annual	Quarterly Design and Works Progress Reports	EPA, supervising engineer
Reduction of pollution exposure paths by remediation measures		Number of pollution exposure paths eliminated	No remediation measures in place, all sites cause pollution through exposure paths (i) air, (ii) soil and groundwater and (iii) run-off water; no (0) exposure paths controlled	Remediation design, verification of design adequacy to eliminate pollution exposure paths and related risks; no (0) exposure paths under control	Implementation of remediation works	Implementation of remediation works	Implementation of remediation works	Expert verification of technical integrity of remediation works and control measures cutting all 12 pollution exposure paths	Annual	Quarterly Design and Works Progress Reports, environmental monitoring data for all four sites, remediation works hand-over and expert verification reports	EPA, supervising engineer

			(out of 12 paths present)								
Number of industries related to the priority industrial waste disposal sites with arrangements for ongoing and future waste disposal in compliance with national legislation for solid waste management		No industries with formalized arrangements for waste disposal in compliance with legal requirements	0	0	2	3	3	3	Annual	Industries with formal arrangements for waste disposal under Waste and IPPC Laws	EPA

INTERMEDIATE RESULTS

Intermediate Result (Remediation of Industrial Waste Disposal Sites)

	Core	Unit of Measure	Baseline	Cumulative Target Values					Frequency	Data Source/ Methodology	Responsibility for Data Collection
				YR1	YR2	YR3	YR4	End Target			
Intermediate Result Indicator One: Industrial dump site at Gradac closed under the Project	**X**	Hectares	0	0 Start of works	5	12.5	12.5	12.5	Annual	Quarterly Design and Works Progress Reports	EPA, supervising engineer
Intermediate Result Indicator Two: Industrial dump site at Pljevlja closed under the Project	**X**	Hectares	0	0 Development of alternative ash disposal site	0 Start of works	20	53.5	53.5	Annual	Quarterly Design and Works Progress Reports	EPA, supervising engineer
Intermediate Result Indicator Three: Cleanup of Bijela site	**X**	Waste removed from site	0% waste removed (of approx. 60,000ton)	65%	100%	100%	100%	100%	Annual	Quarterly Design and Works Progress Reports	EPA, supervising engineer
Intermediate Result Indicator Four: Industrial dump sites at KAP closed under the Project	**X**	Hectares	0	0	0 Start of works	20	43	43	Annual	Quarterly Design and Works Progress Reports	EPA, supervising engineer

Intermediate Result (Regulatory Framework for Future Industrial Waste Management)											
Intermediate Result Indicator Five: Support further development of a national registration system for industrial and hazardous waste management		No system available	System specification; updated inventory of waste generators and estimate of annual waste volumes	System operational	System applied, 20% of estimated total waste flows recorded	System applied, 50% of estimated total waste flows recorded	System applied, 70% of estimated total waste flows recorded	System applied, 80% of estimated total waste flows recorded	Annual	Number of industries, annual waste volumes and waste flows recorded	EPA

Annex 2: Detailed Project Description

MONTENEGRO: Industrial Waste Management and Cleanup Project

1. The Project will support the following three components: (1) the remediation of selected legacy industrial waste disposal sites in Montenegro; (2) support future industrial hazardous waste management related to the remediation sites; and (3) project management.

Component 1 – Remediation of Selected Legacy Industrial Waste Disposal Sites (US$ 65.42 million equivalent, excluding VAT)

2. This component will finance the detailed design, construction, and supervision for the remediation of the Project Sites, including through the following measures: Slope and dam stabilization; coverage; containment cells; in-site encapsulation; re-shaping; re-vegetation; drainage and other water management investments including groundwater management measures, if needed; and removal (including export) of hazardous and non-hazardous waste.

3. This component will support investments to remediate four selected first-priority waste disposal sites. The four waste disposal sites (or 'priority sites') selected by the GOM are the mine tailings disposal site in Gradac; the coal ash disposal facility in Pljevlja; the Bijela shipyard; and the solid waste disposal area and red-mud basins on the KAP site. These four locations plus a site in Niksic for disposal of waste from the local steel industry were considered the sites with the highest priority for remediation because they are substantially larger than other waste sites in the country and are either in close vicinity of very if not the most valuable natural resources of the country or associated with heavy industries for which a necessity exists to bring the historic and ongoing waste management in line with Montenegrin legislation and EU legislation. During preparation of the Project, the GOM decided not to include the Niksic site in the Project's remediation program because the site is privately owned by an operator that has been processing the waste for extraction of recyclables.

4. A feasibility study, ESIA and basic designs were completed for the sites during project preparation and financed from a Project Preparation Facility. A mix of remediation measures have been identified and developed for the various sites: closure and capping of disposal sites; slope stabilization, water management and dam safety measures; and full removal of waste from certain sites. The investments under this component will result in sites that are fully stabilized and have stopped posing significant impacts on natural resources and the environment with limited requirements for aftercare monitoring and maintenance. The following overview presents for each of the sites selected for inclusion in the remediation program under Component 1 a summary of key site characteristics and the proposed approach for environmental remediation:

a. *Mine tailings disposal facility Gradac – Pljevlja*. The 12.5 ha disposal facility in Gradac contains tailings (inert residues) from former zinc-lead ore flotation processing. The site is located adjacent to the river Cehotina and is prone to heavy soil erosion and a source of dust generation, contaminated run-off water and infiltration of heavy metals in soil and groundwater, and the river. The selected remediation option comprises of in-situ slope stabilization and full encapsulation

with reshaping, top cover and re-vegetation. Water management is based on prevention of infiltration into the tailings body and diversion of run-off water. The site has no redevelopment potential and will require a limited effort after remediation to monitor its integrity and environmental condition. The site is not part of any operation or further waste disposal and chemical analysis of the tailings confirmed that these materials are commercially not of interest for reprocessing.

b. *Coal ash disposal facility Pljevlja*. This 53.5 ha facility for disposal of ash from the lignite fired power plant in Pljevlja is owned and operated by EPCG, the Montenegrin state-owned power company with a minority private equity stake. The main environmental issues with this facility are contamination of surface water and groundwater through seepage. The selected solution for closure and remediation of the ash disposal facility in Pljevlja is comparable to the preferred option in Gradac: reshaping, drainage, encapsulation with re-vegetation and investments in water management. The main dam of this facility is in a poor state and EPCG has in early 2013 contracted comprehensive stabilization works for this dam and therefore dam stabilization works are not part of the remediation concept of the feasibility study. The site has no redevelopment potential and will require a limited effort after remediation to monitor its integrity and environmental condition. EPCG is in the process of acquiring a planning permit for a new ash disposal facility which should be operational in 2014 or 2015. Remediation works which are based on closure of the existing facility can only commence when this alternative outlet for ash disposal is operational.

c. *Ship blasting waste and site contamination at Bijela shipyard.* This shipyard is located at the Boka Bay and has an estimated volume of 60,000 tons of contaminated blasting grid stored in big bags. Blasting grid is used for ship paint stripping and cleaning and after use contains heavy metals and should be considered as hazardous waste. The earlier bulk storage of this material has caused soil pollution in an area of around 1.5 ha and it is expected that excavation works necessary for the redevelopment of the site will generate an estimated volume of 40,000 tons of contaminated soil and estimated 7,200 tons of polluted sediments. The selection of remediation option consists of the removal of the contaminated blasting grit (hazardous waste) and the volumes of excavated contaminated soil from the site to meet redevelopment standards. The contaminated soil volumes are classified as non-hazardous waste and would qualify for disposal within Montenegro in one of the municipal waste landfills in the country that meet the standards of the national waste law and the EU Landfill Directive. The large volume of blasting grit is planned to be exported. The site has redevelopment potential and will be cleaned up including removal of contaminated materials to meet standards of industrial and/or commercial sites.

d. *Red-mud basins and solid waste disposal site at KAP*. Red-mud is a by-product from the processing of bauxite in the alumina production, the main input material for the electro-chemical production of aluminum. KAP has not produced alumina

since 2009 and therefore the red-mud basins with a total surface area of 42 ha have not received 'fresh' mud since then. It is the high alkalinity of the red-mud that causes high mobility of some heavy metals but also cyanide, fluoride and aromatic hydrocarbons from the basins are found in soil and groundwater. In time, without adding fresh red mud, the pH gradually decreases to more neutral levels also reducing environmental risks. The proposed remediation consists of draining basin water after treatment, reshaping, covering and stabilization of the impoundment slopes. Further groundwater contamination and migrating of pollutants in groundwater is not expected but should be carefully monitored. If for unexpected reasons the polluting substances will keep migrating in the groundwater system, a future pump-and-treat system could be considered, if needed.

The solid *waste disposal site of 11 ha at KAP* contains both hazardous and non-hazardous waste and has been the subject of a comprehensive site investigation and remediation study under the Bank funded Lake Skadar-Shkoder Integrated Ecosystem Management Project. Also this disposal site has been a substantial source of soil pollution, although disposal practices in recent years have somewhat improved because now waste categories are sorted and stored separately with hazardous materials stored on concrete surfaces, but still in the open and subject to whether conditions. Remediation is costly, due to the special nature of the waste which contains toxic materials that require tailored techniques for containment and the fact that all materials needs to be removed, sorted and put in special cells for final disposal. To facilitate the disposal of future hazardous waste from KAP's aluminum production which is in principle the largest single source of hazardous waste production in the country, the remediation containment will designate a compartment that will not be closed as a separate cell with the same environmental protection standards to receive this waste also after the remediation of the historically accumulated volumes of waste has been completed. This separate cell for KAP's future waste production will be directly managed under the responsibility of EPA or under an alternative arrangement to be determined at completion of the detailed design of the remediation works and satisfactory to the Bank.

5. Total remediation costs for all four sites are estimated at EUR 47.47 million (or US$65.42 million equivalent). The approach has been adopted to prepare works bidding documents with detailed designs for the remediation of all four sites at the start of Project implementation. For each of the locations, and subsequent to and in line with the ESIAs that have been prepared during project preparation, updated Environmental and Social Impact Assessments and Environmental Management Plans (EMPs) will be prepared for national environmental permitting purposes in parallel with the detailed design and in compliance with Bank requirements.

6. *Remediation and redevelopment standards*. The sites of tailings pond in Gradac, the ash disposal facility in Pljevlja and the red-mud basins and the waste disposal area of KAP will not have any redevelopment potential after remediation. Therefore the remediation design for these sites leaves the waste materials in place and only considers approaches to eliminate or minimize

environmental risks and create a final solution that is robust with minimal monitoring and maintenance requirements. The only site with redevelopment potential where waste and contaminated soil will be removed from is the contaminated area of the Bijela shipyard. However, also here the detailed design will work with maximum pollution levels based in international soil remediation standards to define the cut-off limit for site excavation works. These standards will be based on limits acceptable for industrial or commercial redevelopment. Residential developments are not expected for this site, and with the remaining residual contamination levels would not be allowed.

Component 2 – Future Industrial Hazardous Waste Management (US$ 1.24 million equivalent, excluding VAT)

7. The component will support to the Borrower and industries involved with management of the Project Sites for managing future industrial waste generation in a manner compliant with national and EU legislation, for strengthening the Borrower's institutional and regulatory capacities in the field of industrial hazardous waste management, and for exploring options for developing infrastructure for industrial hazardous waste disposal at the national level, including through, but not limited to, the following activities: (a) Support for the development and implementation of a national industrial hazardous and non-hazardous waste register; (b) support for the carrying out of Training, workshops, information and awareness campaigns to increase awareness of waste generators regarding separation of waste streams, interim storage requirements in line with EU legislation, and reporting obligations; and (c) support for the planning and national permitting process for the realization of infrastructure for management and disposal of industrial hazardous waste for future industrial hazardous waste from waste generators in the Borrower's territory.

8. This component will support actions of the government and industries related to the remediation sites under Component 1 managing future industrial hazardous waste generation in a manner that complies with national and EU legislation, since three out of the four identified priority sites are still in use for waste disposal from current industrial operations. This component will also include an analysis of the possibility to allow acceptance of third party hazardous waste of similar characteristics on the KAP site (in the waste disposal cell to be constructed under Component 1 for future waste from KAP) and support the required planning process with detailed design work, but will also further analyze other options such as export or a different location for such infrastructure if this would be more suitable given the small quantities generated in Montenegro and strengthen regulations of industrial hazardous waste management in Montenegro. The construction of a national hazardous waste facility if not combined with remediation at the KAP site is not part of the Project.

9. In order to deal with the recontamination risk of the remediated sites, the civil works at any of the selected legacy industrial site for waste disposal can only start if the industries that formerly used the site for waste disposal have halted this practice and developed and made operational alternative disposal destinations or found other solutions for their waste in compliance with national legislation and satisfactory to the Bank. For the three industries related to the priority industrial waste disposal sites that are generating waste, the Project will support

the required arrangements for ongoing waste disposal in compliance with national legislation for solid waste management.

10. The detailed overview for each of the industrial sites in regard to the possible future waste generation related to these sites is as follows:

a. *Mine tailings disposal facility Gradac – Pljevlja*. As there is no ongoing waste disposal on this site, no arrangements for future waste are required.

b. *Coal ash disposal facility Pljevlja.* The power company EPCG is in the process of acquiring a planning permit for a new ash disposal facility which should be operational in the course of 2014. This development started prior to project preparation, because the current disposal facility which is to be remediated under the Project is running out of disposal capacity. The facilities of the new Sumane disposal site will need to be adequate to accommodate and receive coal ash and be operational before the remediation works on the Pljevlja disposal site will start.

c. *Ship blasting waste and site contamination at Bijela shipyard*. The site investigations and further testing of the blasting grit showed that due to fundamental changes in material properties, the waste is not hazardous anymore and would qualify for disposal within Montenegro in one of the municipal waste landfills that meet the standards of the national waste law and the EU Landfill Directive. Bijela shipyard has already established alternative contractual arrangements for future waste disposal in line with applicable legislation prior to negotiations.

d. *Red-mud basins and solid waste disposal site at KAP*. A legal arrangement will be established between the Borrower and KAP (or the successor owner of the site) that no further red mud will be disposed in the basins in the absence since several years of alumina production and that all future solid waste will be disposed in line with the required Integrated Pollution Prevention and Control permit and all applicable environmental laws and regulations. As mentioned, the Project could support under Component 1 the addition of an active industrial hazardous waste cell together with the site remediation activities offering an alternative proper waste disposal outlet for future KAP waste.

11. As stated above, in addition to the support for proper arrangements for future hazardous waste for the industries related to the priority sites to be remediated under the Project, the component will also support the further development of a national industrial hazardous[5] and non-hazardous waste register which is an integral part of the Environment Information System; and workshop and trainings for industrial waste generators regarding separation of waste streams and proper interim storage requirements in line with EU legislation as well as reporting obligations.

[5] The Government of Montenegro has already made appropriate regulations and rulebooks and issued adequate legislation (Law on waste management, 2008, art.44; Law on Environment, 2008, art.40) to set up a reporting system with necessary forms.

Component 3 – Project Management (US$ 1.24 million equivalent, excluding VAT)

12. This component will support for Project management and capacity building at EPA, including establishment of the PMU, and support for Project monitoring and evaluation, including establishment of a monitoring and evaluation system, through funding of audits, Training, equipment, consultants services, and Incremental Operating Costs.

Project Cost and Financing

Project Components	Project cost Euro	Project cost US$	IBRD Financing (Euro)	% IBRD Financing
Component 1				
1.Gradac	6.04	8.32		
2.Bijela	12.71	17.51		
3.Pljevlja	4.01	5.53		
4.KAP Red-mud basins	3.31	4.56		
5. KAP Solid Waste disposal site	17.19	23.69		
Total Costs Component 1	43.26	59.61	43.26	100%
Contingencies	4.21	5.81	4.21	100%
Component 2	0.90	1.24	0.9	100%
Component 3	0.90	1.24	0.9	100%
Total Project Costs	**49.27**	67.90	49.27	100%
Refinancing PPA	**0.73**	1.00	0.73	100%
Total Financing Required excl VAT	**50.00**	68.90	50.00	100%
VAT 17% (Counterpart Funding)	8.38	11.54	0	0%

Annex 3: Implementation Arrangements

MONTENEGRO : Industrial Waste Management and Cleanup Project

Project Institutional and Implementation Arrangements

1. The Environmental Protection Agency (EPA) under the Ministry of Sustainable Development and Tourism (MSDT) has been confirmed to be the Implementing Agency of the Project on behalf of the Government. For day-to-day implementation, the EPA will establish a Project Management Unit (PMU). The following key positions have already been appointed from EPA staff: Project Manager and Communication Officer; and Project Monitoring and Evaluation Officer. The other two positions, Environmental Specialist/Civil Engineer and Waste Management Specialist will be recruited in a tendering process. The procurement and financial management responsibilities of the Project would rest with the staff of the Technical Service Unit (TSU) within the MOF which has already been in charge of fiduciary arrangements for another four Bank-financed projects. An inter-ministerial Project Steering Committee (PSC) supported by a Technical Working Group (TWG) where needed, both under government approved Terms of Reference, will keep oversight of project implementation.

2. The Project Steering Committee (PSC) which has been established under the preparation of the Project would continue to provide advice and monitoring Project execution and oversee coordination between EPA and local and central government authorities as well as involved industries. The key responsibilities of the Steering Committee will be:

- Supervise project implementation and review the detailed design results and coordinate the activities of the various agencies involved in the various components of the Project.

- Enable the key decisions regarding the project implementation, especially those related to the areas outside of the direct competences of the Environmental Protection Agency and the Ministry of Sustainable Development and Tourism, specifically the final industrial waste sites to be included for financing from the Loan.

- Ensure that decisions and actions at the side of the Montenegrin institutions and stakeholders, including the industrial stakeholders, as appropriate are taken in a timely fashion and facilitate their adoption and implementation.

3. The PSC will include representatives at deputy minister level from the Ministry of Sustainable Development and Tourism; the Ministry of Agriculture, Forestry and Water Management; the Ministry of Economy; and the Ministry of Finance; the Director of the Environmental Protection Agency (EPA) and a representative of NGOs in Montenegro. The Chair of the PSC will be a Senior Management member of the Ministry of Sustainable Development and Tourism or EPA.

4. In addition to the Project Steering Committee, the Technical Working Group which was already established with representatives from the five respective industries and in addition includes independent technical advisors and representatives will continue, as required, its operation to review the detailed design results at the technical level and facilitate the decision-making within the different participating ministries. Changes to the composition of the Technical

Working Group will be endorsed by the Project Steering Committee.

Arrangements with industries related to the four remediation sites

5. The four sites have a varying divide between public and private ownership: The Gradac's tailings disposal site is publicly owned with exploitation rights of the materials once transferred to the private sector but these rights have been waived prior to negotiations; the ash disposal site in Pljevlja is owned by EPCG with a state majority share; the shipyard in Bijela is fully state-owned; and the state has a stake in KAP. The GOM has conducted a review of historic liabilities and contractual arrangements with related industries (if any) and concluded that for the four selected sites for historic reasons and/or because the sites are publicly owned, that the responsibility and obligations for remediation rest with the Government.

6. Although the Government takes full responsibility for the remediation of the sites, since each of the four sites has a relationship with one of the larger industries in Montenegro, it is important that certain arrangements are in place with these industries before actual remediation works commence. In general, these arrangements have to ascertain that: (i) the related industries fully cooperate with the remediation works, by providing access to the site, etc.; (ii) if the site has been used recently for waste disposal, any further disposal of ongoing waste generation at the site has stopped and a sound and fully permitted alternative outlet has been developed for future waste generation to avoid risk of recontamination of the site; and (iii) if in view of site ownership the responsibility for aftercare (site maintenance and monitoring) following the site remediation is to be transferred from the state to another party, the responsibility has to be clearly defined and accepted by the responsible party and an operational budget allocated for this purpose. The various aspects and required arrangements with industries related to the four remediation sites are as follows:

7. In *Gradac*, waste disposal has fully stopped long ago and the mining company Gradir has waived all concessionary rights on the site, including the right to exploit any materials on the site. The land of this former mining site is publicly owned by the Municipality of Plevlja and the State Directorate of Forestry, and the Government will assume full responsibility for remediation and aftercare (monitoring and maintenance) after remediation of this site.

8. For the remediation of the coal ash disposal site in *Pljevlja*, the national power company EPCG and the Government have agreed that after remediation, EPCG as the site owner will assume responsibility for aftercare (monitoring and maintenance). EPCG already has taken full responsibility for rehabilitation and maintenance of the dam that contains the project's ash disposal site. Remediation works can start after ash disposal to the Project site has stopped and the planning procedure and preparation works for the alternative ash disposal site at the Sumane location have been completed. Therefore, the Loan Agreement includes a covenant regarding arrangements that are required between the Government and EPCG regarding the responsibility for aftercare of the Project's remediation works and maintenance of the related dam, and the safeguard requirements for the operation of the alternative ash disposal site at Sumane.

9. The shipyard of *Bijela* is fully state-owned and the project aims to remove the contaminated materials (blasting grit and soil) from the site. Therefore the main point of

attention regarding required arrangements with the shipyard was the assurance that alternative arrangements for adequate future waste disposal are in place. Most recent analyses show that future waste from the shipyard can be classified as non-hazardous and co-disposed with other non-hazardous waste materials in Montenegro.

10. For *KAP*, the aluminum industry, its future is subject to the outcome of a bankruptcy procedure. Given the urgent need to remediate the waste sites at the KAP industrial complex and to avoid complications, but also because a cost-sharing arrangements with one of the private investors is most unlikely, the GOM is assuming full responsibility for the remediation works and aftercare of these works, including –if needed- the operation of the disposal cell with the remediation works that would be made suitable to receive KAP's future hazardous waste from its aluminum production. With alumina production ceased years ago, the red-mud basins are not used anymore for the storage/disposal of red-mud, the main waste stream from alumina production. Resuming alumina production in the future is unlikely and if this would happen it would require a new facility or waste management arrangements as the current facility has reached its disposal capacity. Given its unlikelihood, the remediation of the existing red-mud basins does not require arrangements for future red-mud generation.

Financial Management, Disbursements and Procurement

Financial Management

Risk analysis

11. The Inherent Risk of the project is rated as substantial, while the Control Risk is moderate; therefore the Overall FM Risk is assessed to be moderate, after taking into account mitigation measures.

Country Issues

12. The 2009 PEFA assessment identified considerable improvements in the public financial management systems in Montenegro. Fiscal and budget management systems were found to be sound in the areas such as aggregate outturn compared to original budget, classification and comprehensiveness of the budget, public access and transparency of fiscal information. Montenegro scored relatively well in those areas. In addition in relation to the budget system, predictability of the budget was assessed to be overall solid, while control of the budget demonstrated a number of weaknesses. Accounting, recording and reporting proved to be timely, reliable and information readily available. Treasury system is reliable and it is largely used already by the Bank for flow of funds during implementation of the Bank supported projects. External scrutiny and audit were assessed to need further improvements, however in the follow up to this, a World Bank team assessed capacity of the State Audit Institution in 2011, and findings were overall positive acknowledging substantial development of the SAI in developing audit methodology, scope and execution of its work plan and number, qualifications and training of the SAI's staff. Internal audit function was also assessed to need further strengthening and the Bank will not rely on the internal audit for project design or implementation.

Implementing Entity

13. The TSU will assume financial management responsibilities of the project. The unit has substantial prior experience in implementing World Bank projects, and it is currently in charge of fiduciary responsibilities of four ongoing projects. The TSU's financial management function is appropriately staffed with experienced and professional Senior Finance Officer and Finance Officer.

Planning and Budgeting

14. Planning and budgeting process within the TSU is assessed to be adequate. Budget for the next year needs to be approved by the end of the current year. It is important that there is sufficient capacity for planning and budgeting in order to be able to manage project funds in an optimal manner from aspects of funds allocation, liquidity and overall performance. Variances of actual versus budgeted figures should be monitored on regular basis, appropriately analyzed and corrective actions taken. Use of reliable and performing software additionally facilitates planning and budgeting and in particular analysis and comparison of budgeted and actual figures.

Accounting

Staffing

15. Qualified and experienced Senior Finance Officer and Financial Officer will work on financial management responsibilities for the project. Since the TSU is implementing four other projects, it will be monitored if a gap between the work load and number of staff appears, and corrective actions will be taken. Terms of Reference for financial management staff will be attached to the POM.

Information Systems

16. FMS SYS software is used for projects accounting and reporting. The software is reliable and performing adequately. Although it is assessed to provide accurate and reliable accounting information, the software is not adjusted to all formats required by the World Bank and those used by management (expenditures per component and type of activity, analytical cards of suppliers, formats of financial statements etc.). Due to this FM staff will maintain additional analytical records for each project adjusted to the TSU's and the World Bank's needs, in Excel. This appears to be duplication of work, but since there is appropriate use of such data, and they also serve as tool for additional monitoring and control, it is assessed to be acceptable.

17. Accounting data should be backed up on weekly basis on external drive. Transactions will be accounted for within 8 days after occurring, and necessary reconciliations and controls will be performed by the Senior Finance Officer.

Accounting Policies and Procedures

18. Appropriate accounting policies and procedures are in place. Accounting books and records are maintained on cash basis in line with the World Bank requirements, with additional information about signed contracts. Project financial statements will be presented in EURO. Accounting controls described in the above section will be performed on regular basis.

Internal controls

19. System of internal controls within the TSU is assessed to be reliable and covers all relevant areas. It will be largely used for project implementation and supplemented with additional controls and procedures in the Operations Manual for the project. The additional controls and procedures are intended to fill in any gaps in the existing system and appropriately reflect the project specifics. Some key controls to be applied include:

a. reconciliation of the Bank's disbursement summaries with accounting records on a monthly basis;
b. reconciliation of bank statements with accounting records on a monthly basis;
c. reconciliation of SoEs with accounting records with every withdrawal application;
d. proper segregation of duties, there are no cases of one person having responsibility for all phases of transaction;
e. specific staff authorized for signing and approving of transactions;
f. transactions are properly documented.

20. Bank Statements will be received daily or whenever movements on the account occurred. Based on the Bank Statements the FM staff will record executed payments and perform due reconciliation of the bank balances. The Senior Finance Officer will prepare interim un-audited financial reports listed above quarterly in the agreed format and submit the reports to the Bank. The reports should be signed off by the Senior Finance Officer and the Project Director before being submitted to the Bank.

Reporting and Monitoring

21. Project management-oriented interim un-audited financial reports (IFRs) presented in EURO will be used for project monitoring and supervision. The format of the IFRs has been agreed during negotiation and is attached to the Minutes of Negotiations. The implementing entity will produce a full set of IFRs for each calendar quarter throughout the life of the project. They will be due 45 days after each quarter ends. The IFRs will comprise the following reports presented in the agreed format:

- Statement of Cash receipts and payments;
- Uses of Funds by activity;
- Designated Account statement;
- Units of Output by activity;
- Accounting policies and explanatory notes.

22. The accounting for the project is cash basis with additional information provided for commitments on signed contracts.

External Audit

23. The annual project financial statements will be audited in accordance with terms of reference acceptable to the Bank by the State Audit Institution, and the audit report will be submitted to the Bank at the latest six months after the end of the period audited. Capacity of the SAI had been assessed in 2011 by the Bank's team and since the conclusions were overall positive, it was agreed that the SAI will conduct a pilot audit of the Bank project, namely the PPA for this project. Subject to successful conduct of that audit and the agreement between the Bank and the SAI about the future arrangement for audits of the Bank project, Industrial Waste Management and Clean-Up Project will be audited by the SAI. In case that the audit of the PPA does not meet the Bank standards, or that in discussions with the SAI it is concluded that adding this assignment is too much of a burden given their broad scope of work and limited number of staff, the Bank reserves the right to switch back to require audit of the project done by one of the approved audit firms. The annual cost of the audits of the project will be covered by the project funds.

24. The following chart identifies the audit reports that will be required to be submitted by the project implementation agency together with the due date for submission.

Audit Report	***Due Date***
Entity financial statements	n/a
Project financial statements (PFS), including SOEs and Designated Account. The PFSs include cash receipts and payments by components; SOE statements, Statement of designated account and notes to the financial statements	Within six months of the end of each fiscal year and also at the closing of the project

Funds Flow and Disbursement Arrangements

25. Project funds will flow from the Bank - either as an advance, via a Designated Account to be opened in the Central Bank or an acceptable commercial bank which will be replenished under transaction based disbursement method, and managed as described below in the section on disbursement arrangements, or by direct payment on the basis of direct payment withdrawal applications.

26. The TSU, through authorized signatories, will be administering the Designated Account which will be a Euro account. The TSU will prepare withdrawal applications for replenishment of the Designated Account which ought to be signed by designated signatories. Payments from the Designated Account are executed by the means of payment orders. After all the procedures with respect to flow of documents, verifications and authorizations as prescribed by the POM are applied, payment order signed by designated signatory is submitted to the Central Bank or an acceptable commercial bank where the Designated Account is opened for payment. In the case of Direct Payment the application form for such method payment is submitted to the Bank with the same authorized signatories as described above.

27. The Ceiling for this Designated Account is defined in the Disbursement Letter for the project. Documentation requirements for replenishment would follow standard Bank procedures as described in Disbursement Handbook.

Procurement

28. Procurement for the project would be carried out in accordance with the World Bank's "Guidelines: Procurement Under IBRD Loans and IDA Loans", dated January 2011 and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers", dated January 2011, and the provisions stipulated in the Legal Agreement. For each contract to be financed by the loan, the different procurement methods or consultant selection methods, the need for prequalification, estimated costs, prior review requirements, and time frame are agreed between the Borrower and the Bank project team in the Procurement Plan. The Procurement Plan would be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

29. The procurement thresholds for procurement of goods, works and consultancy contracts are set in accordance with the latest World Bank regional thresholds. In addition to the prior review supervision, to be carried out by the World Bank, it is recommended one supervision mission per year to carry out post review of procurement actions.

30. As stated, the overall procurement and financial management responsibilities of the Project would rest with the staff of the TSU within the MOF which has already been in charge of fiduciary arrangements for another four Bank-financed projects. The main responsibilities of the PMU, including the team in the TSU, include: (i) day-to-day project management; (ii) coordination with the Bank and project stakeholders; (iii) coordination and facilitation of interaction with project stakeholders; (iv) monitoring and evaluation (M&E) of project activities; (v) preparation of annual progress reports; (vi) preparation of quarterly unaudited financial reports and annual audited financial statements; (vii) preparation of procurement plans; and (viii) briefing of the PSC on the status of project implementation, as required.

31. Methods of Procurement of Goods, Works and Non-consulting Services under the Project are: (i) International Competitive Bidding; (ii) National Competitive Bidding, subject to the additional procedures as specified in the Loan Agreement; (iii) Shopping; (iv) Direct Contracting; and (iv) procurement under Framework Agreements in accordance with procedures which have been specified in the Project Operational Manual. Particular Methods of Procurement of Consultants' Services under the Project are: (i) Quality- and Cost-based Selection; (ii) Quality-based Selection; (iii) Selection under a Fixed Budget; (iv) Least Cost Selection; (v) Selection based on Consultants' Qualifications; (vi) Single-source Selection of consulting firms; (vii) Procedures for competitive selection of Individual Consultants; and (viii) Single-source procedures for the Selection of Individual Consultants.

32. The Procurement Plan and overview of procurement methods have been prepared.

Environmental and Social (including safeguards)

Environmental Safeguards

33. The Development Objective of the Project fully aims to improve environmental conditions in Montenegro, namely "to reduce the risks to Montenegro's natural resources and public health from selected industrial waste disposal sites". The Project will achieve this through the development and implementation of a remediation investment program for selected legacy industrial waste disposal sites. At one of these sites the remediation works will be combined with

the development of disposal capacity for the ongoing production of hazardous industrial waste from industries related to the sites to be remediated and possibly other industries in Montenegro. To support these interventions, strengthening of the regulatory framework for management and proper disposal of ongoing industrial hazardous waste production are important elements of the Project to minimize the risks that sites under their remediation investment program are exposed to the risk of re-contamination from future ongoing waste disposal from industries after the remediation works have been concluded. The Bank policy OP 4.01 Environmental Assessment is triggered and the project has been classified as Category A according to the environmental screening and the proposed investment activities and its scale, in particular in view of the development of capacity for the treatment and disposal of hazardous waste from the industries related to the remediation sites.

34. Two site specific Environmental and Social Impact Assessment (ESIAs) were carried out for the proposed project components (one for the sites to be remediated and one for the hazardous waste disposal facility) and associated environmental management plans (EMPs) were prepared to determine the mitigation measures, environmental monitoring program and necessary institutional arrangement as well as capacity development. The documents have been prepared on the basis of national legal requirements as well as applicable Bank safeguard policies.

35. Consultations have been carried out during the ESIA process in two rounds of public hearings for five project locations in Pljevlja, Podgorica, Niksic, and Bijela. The issues raised during these consultations have been incorporated in the ESIA and EMP. Furthermore, feedbacks to the concerns collected in public consultation have been provided to the concerned groups and documented in the ESIA reports. The ESIA/EMP documents and other project related documents have been disclosed locally through various means (websites, hard copies made available to stakeholders), as required by national and Bank's policies. The EIA and EMP have been disclosed through Bank's InfoShop on August 8, 2012 and a revised ESIA and EMP, including the associated Sumane Ash Facility development facility has been disclosed in January 23, 2013.

36. Environment Management Plans: EMPs have been developed for the remediation of historic industrial waste disposal sites. The EMP addresses policies basis and applicable environmental standards, environmental management system, mitigation measures, monitoring plans, institutional arrangements, capacity building and estimated costs for the mitigation measures and monitoring programs for both the construction and operation phases.

37. The EMP includes environmental monitoring programs for both construction and operation phases. The parameters to be monitored include noise, dust, water quality, and solid waste disposal. To ensure the strict and efficient implementation of the mitigation measures proposed, including environmental obligations during construction, a program of monitoring activities has been developed as part of the EMP. The project progress reports furnished by the implementing agency will include a section for EMP implementation and related environmental monitoring reports.

38. *Environmental Benefits*: The proposed project will substantially improve local environmental conditions around the selected historic waste disposal facilities through the

remediation of these sites. Also the development of the national hazardous waste disposal facility will have important environmental benefits by creating a safe outlet for hazardous materials that are currently stored or disposal of at industrial sites in an inadequate manner.

Social Safeguards

39. The remediation of the Pljevlja ash dump could have associated resettlement around the new Sumane ash deposit site for which a Resettlement Policy Framework has been developed and been disclosed. For the associated investment in the Sumani Ash disposal facility which is being developed by EPCG. Upon the completion and approval of the detail design for the new Ash Disposal Facility and the planning for the development of that facility in relation to settlements, the possible impacts and timing of the development of the Sumani site and the footprint will be known. Due to the current uncertainty of the exact impacts as well as the phasing from the development of Sumani site, it is not known whether and when there would be a need for resettlement. Therefore, according to the OP/BP 4.12 precautionary principle, a Resettlement Policy Framework with the principles for the resettlement has been prepared which would require preparation of a RAP if resettlement or loss of assets, income or access is involved. For the other Project Sites, no land taking or change in type of land use would be required; the Project interventions will only improve the situation. Regarding potential historic problems with previous resettlements, reasonable due diligence was undertaken as part of preparation and no specific claims were found. There are no other potential or actual social negative impacts.

Other Safeguard Policies

40. In view of dam and impoundment heights (15m or more), the *Safety of Dams* (OP/BP 4.37) Policy applies to the industrial waste disposal sites of Gradac (mine tailings), KAP (red-mud basins) and Pljevlja (coal ash disposal). The requirements triggered by the Bank's Safety on Dams safeguard policies (OP/BP 4.37) are observed through the input of international dam safety experts in the core team of the Consultant that has prepared the feasibility study and the conceptual design for the remediation works that for some locations include existing dams or impoundments that trigger OP/BP 4.37. During project preparation site investigations and preliminary dam / slope stability and risk assessments have been conducted for these sites and stabilization measures identified, which will be incorporated in the remediation designs of these sites. A review of investigation data, the conceptual designs and an inspection of the dams by one of the Bank’s dam safety specialists confirmed that previsions of the Policy for existing dams apply to the three dams of the Project as these dams are not considered to have special hazards that would require a regime for high-risk dams. This review resulted in the following recommendation for measures during project implementation in addition to the remediation/stabilization works identified in the feasibility study: (i) for the dam of the ash disposal facility in Pljevlja, to include monitoring equipment and commence a frequent monitoring program with early warning system upon completion of remediation work; and (ii) for the impoundment of the red-mud basins at the KAP site, to collect addition geotechnical site data during the detailed design stage of project implementation. These measures and independent monitoring and review actions for implementation of the project in compliance with the Safety of Dams policy were confirmed during project appraisal and included in the Loan Agreement.

41. It was assessed that all activities envisaged under Component 1, beside remediation of the Lead and Zink Tailing Ponds in Gradac might affect international waterways as indicated in the Bank policy on International Waterways (OP 7.50). The KAP red-mud basins present a current risk due to potential leakages of alkaline waters to local groundwater and to the Moraca and Cijevna Rivers, which are tributaries of Skadar Lake. The alkaline water will be removed and treated, after which treated waters will be discharged into the sewage system or into the Moraca or Cijevna Rivers, dependent on the final design. For this reason, the client sent a notification letter on March 6, 2013 regarding this investment to notify the Government of Albania as the Skadar Lake basin is shared with Albania to which no comment were received. For the remaining remediation activities that could involve the use or potential pollution of international waterways under OP 7.50 envisaged under Component 1, especially (i) Bijela Adriatic Shipyard, located at the Boka Bay and (ii) the Ash Dump Facility of Pljevlja Thermo-Electric Power Plant, While OP 7.50 has been triggered for these activities, a notification exception under paragraph 7 of OP 7.50 has been sought and approved by the Bank's Regional Vice President as the works will not adversely affect the quantity or quality of water flow to any riparian states, and will not be aversively affected by the other riparians' possible water use and it was determined that the works qualified as rehabilitative in nature and therefore as on-going scheme as referred to in the OP 7.50. More importantly, the envisaged works will minimize risk of pollution of the riparians' waters. Montenegro is signatory of the Barcelona Convention and also involved in several partnerships with the above riparian countries in the framework of the Adriatic Ionian Initiative for the Protection of the Adriatic Sea. The proposed Project activities do not conflict with any of the principles of the above agreements, and those agreements do not require additional notification of other riparians. Montenegro is also a party to the International Commission for the Protection of the Danube. However, because of the nature of the works, there is no requirement for notifying other riparians of the proposed project under this treaty.

42. Based on the consideration of the international aspects of the Project, the issues involved are considered to be satisfactory covered by an appropriate agreement or arrangement between the beneficiary state and the other riparians. Most importantly, the project will not cause appreciable harm to the other riparians, and will not be appreciably harmed by the other riparians' possible water use. More importantly, the envisaged works will minimize risk of pollution of the riparians' waters.

Monitoring & Evaluation

43. The primary tool for monitoring and evaluation (M&E) is the Results Framework. The PMU of EPA will have a dedicated M&E Officer who will be responsible for day-to-day data collection and reporting of M&E results. Data for monitoring will come from EPA as implementing agency and related data on continuing industrial waste generation through EPA from the related industries. There is no existing structured or reliable monitoring system for industrial waste management in Montenegro and a reporting, recording and reporting system within EPA will need to be developed under Component 2 of the Project. Hence the project has provisions to develop a waste management information system (W-MIS) within EPA in line with EU legislation on classification of waste.

44. The primary source of information for the results monitoring for the remediation of the four contaminated sites will be generated from the supervising engineer's reports for the remediation works and data provided by the works contractors. In addition, under the Project, a monitoring program and at least two times per year for the duration of the project will be established to collect and analyze samples of groundwater, soil, dust (when possible or relevant), run-off water, and in the case of Bijela sea bed sediment in the operational area of the ship yard, and compare these values with data collected during project preparation. The data series should enable some trend analyses and at the end of the project support the assessment that main pollution exposure paths between the four sites and the surrounding environment have been cut. Finally, EPA will make sure that qualified expert, independent from the works contractors and acceptable to the Bank, will review the remediation designs for the four sites before the works start and at the end of the project review the integrity of the remediation works at the four sites to confirm that all main pollution exposure paths have been cut.

Role of Partners (if applicable)

NOT APPLICABLE

Annex 4: Operational Risk Assessment Framework (ORAF)

Montenegro: Industrial Hazardous Waste Management and Cleanup Project (P122139)

Stage: Board Approval

1. Project Stakeholder Risks				
1.1. Stakeholder Risk	**Rating**	**High**		
Description: For some of the sites selected for remediation, contracts related to the privatization and/or asset transfer of these sites contain unclear or difficult to enforce arrangements for addressing impacts and liabilities from historical industrial waste disposal. Three out of the four identified priority sites are still actively in use for waste disposal of current industrial operations.	**Risk Management:** The Feasibility Study prepared from the funds of the Project Preparation Advance has clearly differentiated between legacy and ongoing environmental issues and the accompanying public obligations as well as private responsibilities. The Government of Montenegro (GOM) confirmed, based on the outcome of their legal due diligence assessment, the eligibility of the four selected sites for inclusion in the remediation program of the Project to be funded from the Loan. Remediation works at any of the selected legacy industrial site for waste disposal can only start if, where applicable, entities that formerly used the concerned site for waste disposal have halted this practice and developed and made operational alternative disposal destinations or other solutions for their waste in compliance with national legislation and satisfactory to the Bank. Both these elements are legal covenants under the Loan Agreement. The project investments are overall beneficial to the industries related to the selected sites and risks that the project could negatively affect their operations are considered absent or not significant.			
	Resp: Both	**Stage:** Implementation	**Due Date:** prior to works	**Status:** Not yet due
3. Implementing Agency Risks (including fiduciary)				
3.1. Capacity	**Rating**	**Substantial**		
Description: The Environmental Protection Agency (EPA) is a relatively newly established agency with some but limited technical capacity in the field of contaminated site rehabilitation. It also has only gained experience with implementation of Bank-financed projects since the start of preparation for this project in 2011.	**Risk Management:** EPA has over the last two years shown strong commitment and developed technical skills to prepare the project and with its background is considered the most qualified institution in Montenegro to implement the Project. The project will follow the mechanisms for capacity building as put in place in other Bank-financed remediation Projects, where capacity increased substantially during project implementation and will establish national and international support mechanisms in technical areas to facilitate implementation as needed. In addition, EPA has successfully implemented activities financed under the Project Preparation Advance for the preparation of the Project. Procurement and Financial Management will be undertaken by the Technical Service Unit (TSU). EPA has showed substantial ownership and active involvement during the preparation phase and design of the project. In addition, EPA has the institutional mandate within Montenegro.			

	Resp: Client	**Stage:** Implementation	**Due Date:** Continuous	**Status:** In Progress

3.2. Governance	**Rating**	**Low**		
Description: In the European Commission's (EC) October 2012 Progress Report on Montenegro – the first since Montenegro opened accession negotiations with the EU on June 29, 2012 - the EC called for enhanced professionalism and de-politicization of the public administration and the judiciary. It noted lingering weaknesses in the rule of law and that the large informal sector is negatively affecting the investment and business environment. It further observed the anti-corruption and legal framework needs to be improved; the fight against organized crime reinforced; and media-freedom enhanced.	**Risk Management:** All projects in the current portfolio and those foreseen for the upcoming CPS period include strong elements of capacity building (aimed at strengthening public institutions) and, where needed, the adoption of a legal framework following international best practice and European standards.			
	Resp: Both	**Stage:** Implementation	**Due Date:** Continuous	**Status:** In Progress

4. Project Risks

4.1. Design	**Rating**	**Moderate**		
Description: Risk of recontamination of the remediated sites. .	**Risk Management:** See above under Stakeholder Risks, appropriate legal covenants to mitigate this risk have been integrated in the Project and will be included in the Loan documentation or in agreements required to be entered with the industries. These agreements and covenants require physical alternative arrangements for adequate waste disposal to be in place and tested before remediation works can commence. For KAP, the Project will support an active hazardous waste cell together with remediation activities in order to offer an alternative waste disposal outlet for future KAP hazardous waste. These will be further strengthened by an accompanying regulatory framework and industries are subject to Integration Pollution Prevention (IPPC) Permits, in line with EU legislation which will halt the current practice of incorrect and uncontrolled waste disposal.			
	Resp: Both	**Stage:** Implementation	**Due Date:** Prior to works	**Status:** Not Yet Due

4.2. Social and Environmental	**Rating**	**High**		
Description:	**Risk Management:**			

Current environmental impacts are substantial. Dam stability could be an issue for the red-mud basins of KAP, the tailing pond in Gradac and the ash and slag disposal facility of the lignite power plant in Pljevlja. Although not expected, the associated investment at Pljevlja to develop an alternative ash disposal facility at the Sumane site could require future land acquisition.	The proposed Project is expected to result in substantial improvement related to impacts to the environment and industrial waste management practices. Remediation works will only start after an Environmental and Social Impact Assessment and Environmental Management Plan has been prepared during the phase of detail design for the concerned site for national authorization purposes and satisfactory to the Bank and based on the approved EMP. For each of the proposed investments, dam stability has been investigated as part of the feasibility study, Environmental Impact Assessments, Environmental Management Plans. A review by one of the Bank's dam safety specialists confirmed that previsions of the Policy for existing dams apply to the three dams of the Project as these dams are not considered to have special hazards that would require a regime for high-risk dams. The possibility of future land acquisition has been considered and a Resettlement Policy Framework has been adopted by the GOM for this purpose (see ISDS and RPF). Other significant risk from project impacts that could negatively affect the population living near the project sites are not expected. As mentioned, the objective of the project is to improve environmental conditions near the sites.			
	Resp: Both	**Stage:** Implementation	**Due Date:** during contracting and execution of works	**Status:** Not Yet Due
4.3. Program and Donor	**Rating**	**Moderate**		
Description: The project is self-standing and does not depend on the success and/or timing of other projects. Government has been consistent in its request for the World Bank to be involved in remediation of legacy industrial disposal sites. However due to the financial crisis, pressure on scarce governmental resources is present.	**Risk Management:** The government has reconfirmed the availability of counterpart funds for taxes that apply to expenditures of the proposed project.			
	Resp: Both	**Stage:** **Implementation**	**Due Date:** Negotiations	**Status:** Done
4.4. Delivery Monitoring and Sustainability	**Rating**	**High**		
Description: No current arrangements are in place for monitoring and maintenance of the identified industrial priority waste sites to be remediated.	**Risk Management:** The Government of Montenegro assumes all responsibility for site aftercare (environmental monitoring and site maintenance) upon completion of the remediation works for the KAP site and the Project Site in Gradac. Aftercare for the Pljevlja Project site will be undertaken by EPCG. Legal covenants have been put in place. In addition, the designs are based on robust and simple designs with little need for maintenance. The shipyard in Bijela does not require special aftercare after clean-			

	up works have been completed.			
	Resp: Both	**Stage:** Implementation	**Due Date:** Prior to works	**Status:** Not Yet Due

Overall Risk

Implementation Risk Rating: High

Risk Description: The overall implementation risk is rated as High, due to the stakeholder risk, social and environmental risks, as well as the delivery monitoring and sustainability risks.

Annex 5: Implementation Support Plan

Montenegro: Industrial Waste Management and Cleanup Project

Implementation Support Strategy

The Bank's implementation support strategy for the project reflects the key implementation risks identified in the ORAF. While the Environmental Protection Agency is a new implementing agency for World Bank financed Projects, substantial experience has been obtained during the preparation phase of the Project and implementation of the Project Preparation Advance activities.

Procurement and Financial Management arrangements are deemed to be suitable from fiduciary point of view by the Bank. The Bank will continue to provide assistance during project implementation. The Bank team will require technical specialists on complex industrial waste dump remediation and environmental site investigations. The plan set out below details the needed resources.

Implementation Support Plan

The Bank's implementation support plan consists of scheduled supervision and implementation support missions, site visits to project sites and fiduciary compliance reviews. Guidance and recommendations will, as appropriate, take into account the findings of independent consultants engaged under the project. Critical technical experts will be retained as required during implementation to review and provide recommendations on the further environmental site investigations and detail designs as required for the preparation of the bidding documents for the works. The Bank team will ensure timely, efficient and effective implementation support to the client. Ongoing on demand support will be provided by the Podgorica office-based members of the task team and Washington office. The table below summarizes the skills needed for implementation support during the various stages of project implementation

During project implementation, the Bank will supervise the project's financial management arrangements in two main ways: (i) review the project's interim un-audited financial reports for each calendar quarter, as well as the project's and entity's annual audited financial statements and auditor's management letter; and (ii) perform on-site supervisions, review the project's financial management and disbursement arrangements to ensure compliance with the Bank's minimum requirements. The on-site supervision will include monitoring of agreed actions and issues identified by the auditors, review of randomly selected transactions, review of accounting, reporting, budgeting, internal controls and flow of funds. Supervision will be performed by the Bank accredited Financial Management Specialist.

Time	***Focus***	***Skills Needed***	***Resource Estimate***	***Partner Role***
First 12 months	Capacity Building or Training of PMU (Procurement/FM, etc. training)	Procurement Spec FM Specialist	2 SW each	
	Review of detail design Environmental and Social Impact Assessment, including Environmental and Social	Environmental Specialist Social Development Specialist	2 SWs each	

Time	*Focus*	*Skills Needed*	*Resource Estimate*	*Partner Role*
	Safeguards			
	Review of hazardous chemical removal and disposal, including Environmental Safeguards	Environmental Specialist Hazardous waste specialist	2 SWs each	
	Review of works bidding documents first two sites	Environmental Specialist Remediation Expert	1 SW each	
	Task Team Management	TTL	10 SWs	
12-24 months	Overall monitoring of project activities and conduct technical audits for any refinements that may be needed, including Environment and Social Safeguards	Environmental (Safeguard) Specialist and Social (Safeguard) Specialist	2 SWs each	
	Review of works bidding documents last two sites	Environmental Specialist Remediation Experts	1 SW each	
	FM management, disbursement and procurement	FM Specialist, Procurement Specialist	2 SWs each	
	Task Team Management	TTL	8 SWs	

Skills Mix Required for first two years of implementation

Skills Needed	*Number of Staff Weeks*	*Number of Trips*	*Comments*
Environment Specialist	8 SWs	6	
Social Safeguards Specialist	4 SWs	3	
FM Specialist	4 SWs	4	
Procurement Specialist	4 SWs	4	
Hazardous Waste Specialist	2 SWs	0	
Remediation Expert	2 SWs	0	
TTL	18 SWs	6	


IBRD 41099
MONTENEGRO
INDUSTRIAL WASTE MANAGEMENT AND CLEANUP PROJECT
PROJECT SITES
CITIES AND TOWNS
NATIONAL CAPITAL
RIVERS
MAIN ROADS
RAILROADS
OPSTINA (MUNICIPALITY) BOUNDARIES
INTERNATIONAL BOUNDARIES
Gradac Tailings Disposal Remediation Site
Pljevlja Coal Ash Disposal Remediation Site
Bijela Shipyard Remediation Area
KAP Remediation Area
BOSNIA AND HERZEGOVINA
SERBIA
KOSOVO
ALBANIA
CROATIA
Adriatic Sea
Lake Scutari
PODGORICA
Gradac
Pljevlja
Ljubisnja (2238 m)
Bioc (2396 m)
Durmitor
Žabljak
Đurđevića Tara
Sandžak
Sinjajevina
Rudinice
Plužine
Goransko
Bojovo Polje
Tomaševo
Bijelo Polje
Šavnik
Mojkovac
Gvozd
Kapa Moračka (2227 m)
Kolašin
Ivangrad
Berane
Rožaje
Velimlje
Petrovići
Vilusi
Nikšić
Mateševo
Andrijevica
Morakovo
Međurječje
Komovi (2656 m)
Grahovo
Lijeva Rijeka
Murino
Plav
Crkvice
Pelev
Danilovgrad
Gusinje
Risan
Perast
Spuž
Brača
Herceg-Novi
Tivat
Kotor
Radovići
Cetinje
Tuzi
Plavnica
Budva
Sveti Stefan
Virpazar
Petrovac
Bar
Stari Bar
Shkodër
Ulcinj
Sveti Nikola
19°E
20°E
43°N
42°N
0 5 10 15 20 Kilometers
0 5 10 15 20 Miles
MONTENEGRO
GSDPM
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