UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

June 24, 2008

Beverley Everson
Coronado National Forest
300 W. Congress St.
Tucson, Arizona 85701

Subject: Rosemont Copper Project Notice of Intent to Prepare an Environmental Impact Statement, Pima County, Arizona

Dear Ms. Everson:

The U.S. Environmental Protection Agency (EPA) has reviewed your Notice of Intent to prepare an Environmental Impact Statement (EIS) for the above referenced project. Our comments are provided pursuant to the National Environmental Policy Act (NEPA) and the Council on Environmental Quality's NEPA Implementation Regulations at 40 CFR 1500-1508.

The scope of subjects that should be included in the EIS is described in the enclosed detailed comments. Topics include geochemistry, water resources, air quality, vegetation and wildlife, mining waste, reclamation and post-closure, cumulative impacts, environmental justice, tribal consultation, pollution prevention, and land use.

We appreciate the opportunity to review this scoping notice. Please send a copy of the Draft EIS to this office when it is officially filed with our Washington, D.C., office. If you have questions, please call me at (415) 972-3853.

Sincerely,

/s/

Jeanne Geselbracht
Environmental Review Office

005150

Enclosure

cc: Brian Bellew, Bureau of Land Management – Tucson
Marjorie Blaine, U.S. Army Corps of Engineers

General Comments

The Environmental Impact Statement (EIS) should demonstrate that all reasonable alternatives to proposed actions have been examined and that appropriate mitigation measures have been thoroughly considered and incorporated into the project. The EIS should provide substantial detail on the means of implementing mitigation measures, and should also identify how monitoring would be established to ensure compliance and assess effectiveness of mitigation.

In accordance with 40 CFR 1502.24, agencies are required to insure the professional integrity, including scientific integrity, of the discussions and analyses in the EIS. Any methodologies used should be identified, and the scientific and other sources relied upon for conclusions in the statement should be explicitly referenced.

Purpose and Need

In accordance with 40 CFR 1502.13, the EIS needs to "specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." We note that the Forest Service's March 13, 2008, Notice of Intent states:

> "The purpose of the proposed Forest Service action is to grant permission to the Company to use NFS land for certain activities related to operation of the Rosemont Mine. The agency's need for action is based on statutes and policy that govern mining on NFS land."

Rather than the purpose being to grant permission to operate the mine on Forest lands, it appears that the underlying project purpose is to profitably recover copper, silver, and molybdenum reserves, and the need is to meet the prevailing market demand for these commodities. A clear purpose and need for the project sets the stage for thorough consideration of a range of alternatives. EPA recommends the EIS include a clear description of the project=s purpose and need. Each alternative should be analyzed to demonstrate how the project's purpose will or will not be achieved.

Alternatives

The EIS should rigorously explore and objectively evaluate all reasonable alternatives, including reasonable alternatives not within the jurisdiction of your agency. 40 CFR 1502.14. Project alternatives (with the exception of the no action alternative) should correspond to the basic project purpose and need. The EIS should provide a clear discussion of the reasons for the

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elimination of alternatives which were not evaluated in detail. The document should discuss potential environmental impacts of the alternatives in comparative form, thus sharply defining the issues among the options for decision makers and the public. 40 CFR 1502.14. Reasonable alternatives could include, but are not necessarily limited to, alternative sites or alternative designs for major mining facilities (e.g., waste rock piles or tailings impoundments), smaller project, other viable ore bodies, different pit geometries, and pit backfilling; as well as any alternatives evaluated for purposes of obtaining a Clean Water Act Section 404 permit, pursuant to 40 CFR Part 230. Alternatives, including the No Action Alternative, may also depend on the validity of mining claims. The EIS should identify the lode and mill site claims that are included in the proposed project and discuss their validity. The EIS should discuss the alternatives in the context of the validity of claims and the U.S. Forest Service's authorities under the Mining Law, the National Forest Management Act, and other relevant statutes and regulations.

Water Resources

1. The EIS should describe the applicable state-adopted, EPA-approved water quality standards, including beneficial uses, and discuss each alternative=s compliance with these standards. The EIS should describe and discuss the permits that would be required by State and Federal agencies for water resources related to the project.

2. The EIS should identify the existing water quality of surface waters in the project area, including any waters that are impaired under Section 303(d) of the Clean Water Act. Streams that are already impaired are particularly sensitive to additional discharge loadings and will require a thorough impacts analysis.

3. The EIS should describe the potential effects of all project discharges on surface water quality, such as thermal changes, increased suspended solids, toxicity, salinity, and pH, including cumulative impacts over time. The project=s impacts on designated beneficial uses of affected streams should be thoroughly described and considered.

4. The EIS should include a map depicting locations of all discharge outfalls.

5. The EIS should describe all surface water discharges from the site, including storm water and mine drainage and discuss whether a National Pollution Discharge Elimination System (NPDES) permit (individual and/or general) would be required, including during closure or post-closure.

(a) Discuss the applicability of Arizona=s General Permit for Stormwater Discharges Associated with Industrial Activity from Metal Mining Activities to this project. The EIS should include a storm water pollution prevention plan and discuss specific best management practices that may be necessary.

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(b) Discuss whether any discharges would be classified as Amine drainage@ and required to meet technology based effluent limitations prior to discharge. See: 40 CFR 122.44(a) (regarding the inclusion of technology-based limitations in permits); and 40 CFR 440.102(a) (establishing effluent limitation guidelines pertaining to mine drainage). See also, 40 CFR 440.132(h) (A>Mine drainage= means any water drained, pumped or siphoned from a mine.@). The EIS should describe how the project will either achieve zero discharge or meet permitting requirements for discharges to surface waters.

6. The EIS should completely describe the pre-mining drainage patterns in the project area, as well as the drainage patterns of the area during project operations and following reclamation. Include hydrologic and topographic maps of the areas. This discussion should encompass effects of the project on erosion potential and sedimentation.

$ Identify any components of the proposed project that would fall within 25- or 100-year flood plains. Discuss the potential for flash floods to transport sediment from disturbed areas at the mine to stream channels.

$ Describe the designs of the heap leach facilities, tailings dams, seepage collection systems, and pumpback systems under the proposed project.

$ Discuss the potential for contamination of surface flows (perennial, intermittent, or ephemeral) and meteoric water that pass through waste rock dumps, ore stockpiles, tailings, pit high walls, or other mine facilities. Describe mitigation measures to prevent this contamination, including the construction of run-on/run-off channels, addition of neutralizing material, collection or sedimentation ponds, and any necessary treatment or disposal of these solutions.

$ Describe flow velocities of all discharges to surface waters and discuss whether these discharges could contribute to scouring and sedimentation in these channels.

7. Discuss how accidental releases of hazardous materials, including overflow from ponds would be handled. Identify the potential impacts resulting from failure of components of the solution containment systems, methods for discovering such failures, and the degree to which impacts would be reversible.

8. The EIS should identify all sources of water needed for the project, and describe the potential environmental impacts associated with using these sources. If dewatering will be necessary, the EIS should describe the dewatering system and the potential direct, indirect, and cumulative impacts on groundwater and surface water, estimating rates of dewatering and water use by the proposed project, as well as all other water use in the vicinity. Identify direct, indirect,

and cumulative impacts to surface water flow, water supply wells, wetlands, springs and seeps, vegetation, wildlife, and other groundwater-dependent resources as a result of groundwater pumping associated with the proposed project. (See "Vegetation and Wildlife," below).

9. Discuss the mineralogy and acid generation/neutralization potential of waste rock, spent ore, and pit walls at the site. Describe the static and, if appropriate, kinetic tests that have been conducted on ore and waste rock and provide the results for each test. The EIS should include cross-sections showing locations of static and/or kinetic test samples and describe and discuss their representativeness. Describe the quality of waters at nearby mining sites, particularly older mines, which may be used to predict future acid generation at the proposed project site. The EIS should discuss whether there are adequate materials available to neutralize all acid-generating waste rock that might occur, and identify a source of neutralizing material on- or off-site should it be deemed necessary in the future. Describe and commit to measures to ensure isolation of potentially acid generating waste rock, prevention of acid generation from mine waste and pit walls, and any additional mitigation measures that may be necessary should prevention measures fail.

10. The EIS should include the Waste Rock Characterization and Disposal Plan, or an appropriate summary. The waste rock plan should describe how waste rock will be characterized, handled, and disposed. The plan should describe procedures for water quality monitoring and reporting as well as monitoring the functioning of the waste rock dumps in controlling contact between waste rock and surface or meteoric water (e.g., maintenance of run on/runoff channels, underdrains, and collection areas at base of dumps; ponding on top of dump; etc.). The waste rock plan should describe the Forest Service's implementation monitoring procedures and enforcement mechanisms should the mine operator fail to properly follow the plan. The plan should also include a contingency plan in the event of unintentional releases of acid drainage or other contaminants from the site.

11. The EIS should describe in detail the proposed facility design and operation, including liner and cover specifications, ditches and ponds, and maintenance and monitoring activities to ensure integrity of facilities throughout project operations, closure, and post-closure.

12. The EIS should include the surface water quality monitoring that will be required to ensure compliance with water quality standards. Describe the locations of all monitoring wells and points of compliance on the site. The screening intervals, parameters to be monitored, and monitoring frequencies should be identified.

13. Provide projected chemical characterization of water in open ponds located at the site, including projected water quality in open pits following closure. The potential for and effects of movement of any contaminated surface water to the subsurface should also be discussed, as well as means to prevent it. The EIS should also describe the potential impacts to

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surface water, groundwater, and wildlife from open pits, backfilled pits, and partially backfilled pits after closure, as well as the measures that will be taken to prevent these impacts.

Waters of the U.S.

1. It appears from the Rosemont Mine Plan of Operations that the leach pad, tailings, waste rock dump, and pit are all proposed to be located in stream courses. The Forest Service should coordinate with the U.S. Army Corps of Engineers to determine if the proposed project requires a Clean Water Act Section 404 permit. Section 404 regulates the discharge of dredged or fill material into waters of the United States, including wetlands and other "special aquatic sites." The EIS should describe all waters of the U.S. that could be affected by the project, including past impacts. The discussion should include acreages and channel lengths, habitat types, values, and functions of these waters. All required Federal and State permits for work potentially affecting wetlands or waters of the U.S. should be identified. The EIS should address opportunities for improving the quality and quantity of wetlands in the study area in designing facilities.

2. If a permit is required, EPA will review the project for compliance with Federal Guidelines for Specification of Disposal Sites for Dredged or Fill Materials (40 CFR 230), promulgated pursuant to Section 404(b)(1) of the Clean Water Act (A404(b)(1) Guidelines@). Pursuant to 40 CFR 230, any permitted discharge into waters of the U.S. must be the least environmentally damaging practicable alternative available to achieve the project purpose. The EIS should include an evaluation of the project alternatives in this context in order to demonstrate the project=s compliance with the 404(b)(1) Guidelines. If, under the proposed project, dredged or fill material would be discharged into waters of the U.S., the EIS should describe the potential environmental impacts and discuss alternatives to avoid or minimize those discharges.

3. If a discharge is permitted, required mitigation for impacts to waters of the U.S. should be identified and committed to in the EIS for evaluation by the public and decision-makers. Mitigation should be implemented in advance of the impacts to avoid habitat losses due to the lag time between the occurrence of the impact and successful mitigation. The discussion should include the following information:

$ Acreage and habitat type of waters of the U.S. that would be created or restored;
$ Water sources to maintain the mitigation area;
$ The revegetation plans including the numbers and age of each species to be planted;
$ Maintenance and monitoring plans, including performance standards to determine mitigation success;
$ The size and location of mitigation zones;
$ The parties that would be ultimately responsible for the plan's success; and

$ Contingency plans that would be enacted if the original plan fails.

Air Quality

1. The EIS should describe existing air quality in the project vicinity. The EIS should also discuss the National Ambient Air Quality Standards (NAAQS) and Prevention of Significant Deterioration (PSD) increments applicable to air quality in the project area. PSD increments exist for sulfur dioxide, nitrogen dioxide, and PM10 (particulates smaller than 10 microns in diameter). Specifically, for Class II areas, the annual PSD increment for nitrogen dioxide is 25 microns per cubic meter (ug/m^3); the annual PM10 increment is 17 ug/m^3; and the 24-hour PM10 increment is 30 ug/m^3.

2. The EIS should estimate project emissions from all facilities and roads related to the mine=s operations, including any off-site processing that may be planned. Discuss whether a PSD permit would be required for the proposed project. If a PSD permit is required, the mining company will need to determine increment consumption as well. If a PSD permit would not be required, the EIS should indicate whether the baseline date has been triggered for minor sources in the project area. Once the minor source baseline date has been triggered for a certain pollutant in a specified area, all emissions from minor sources of that pollutant consume increment. The EIS should discuss impacts to the NAAQS and PSD increments from projected emissions of the project and alternatives, considering the effects from all aspects of mine excavation, construction, operation, and support activities, such as vehicle traffic, as well as cumulative emissions from other sources in the project area. The Forest Service should closely coordinate with the Pima County Department of Environmental Quality regarding regulatory requirements and controls.

3. PSD increments are highly protective of air quality in Class I areas such as wilderness areas and national parks. The PSD increments for PM10 in Class I areas are 4 ug/m^3 and 8 ug/m^3, for the annual and 24-hour standards, respectively; and the nitrogen dioxide annual increment is 2.5 ug/m^3. The EIS should identify all Class I PSD areas located within 100 kilometers of the proposed project site. Class I areas even further away could potentially be affected as well. The Forest Service should consult with the Bureau of Land Management and the National Park Service for a determination of which areas could be adversely affected by the proposed action. Potential impacts to Class I PSD areas, including visibility impacts, should be discussed.

4. The EIS should describe mitigation measures to minimize air pollutant emissions from the mine. Conventional fugitive dust source controls include water application or use of chemical binders or wetting agents on roads and stockpiles, and revegetation of disturbed areas. Additional measures exist that could be used to control PM10 emissions, as well as diesel particulate matter (DPM) and other criteria pollutants, from fugitive sources at the mine. We recommend the following additional emissions reduction measures.

- $ Use particle traps and other appropriate controls to reduce emissions of DPM and other air pollutants;
- $ Use diesel fuel with the lowest sulfur content available, or other suitable alternative diesel fuel, which substantially reduces DPM emissions;
- $ Minimize construction-related trips of workers and equipment, including trucks and heavy equipment;
- $ Lease or buy newer, cleaner equipment (1996 or newer model);
- $ Employ periodic, unscheduled inspections to ensure that construction equipment is properly maintained at all times and does not unnecessarily idle, is tuned to manufacturer's specifications, and is not modified to increase horsepower except in accordance with established specifications.

We also recommend the Forest Service coordinate with the Pima County Department of Environmental Quality regarding other fugitive dust and DPM control measures.

5. The EIS should discuss whether air quality monitoring would be implemented to ensure project compliance with all applicable air quality standards and permits.

Hazardous Air Pollutants

1. The EIS should estimate releases of hazardous air pollutants (HAPs) from the proposed project to air, soil, or water resources, and identify all sources of HAPs at the mine.

2. The EIS should list major processing equipment, including any autoclave or roaster, stripping units, electrowinning units, retorts, refining furnaces, and carbon regeneration kilns. Illustrations depicting the processing circuits would be helpful. The EIS should list in detail and depict all possible sources of HAPs and the unit processes that generate this material.

3. The EIS should discuss how all HAPs would be controlled to reduce their emissions as much as possible, and the equipment included in the system to condense, capture, and/or treat HAPs, including mercury, and reduce their emissions. A description of this equipment should be included in the EIS with a discussion on how these measures are effective in removing HAPs and making it unavailable for release into the environment.

4. The EIS should describe and quantify mercury concentrations in the ore, waste rock, and tailings. If any ore to be processed would contain mercury, the EIS should identify the processes that could potentially release it, describe mercury controls that would be needed, and estimate the potential mercury emissions from the project. It should also indicate how any condensed or captured mercury would be recycled, sold, or disposed. If any mercury would be released, the EIS should describe the likely fate and transport of mercury air emissions from the

proposed project as well as the cumulative amount of mercury that is annually emitted to the air from all mining operations within the cumulative impact area. This discussion need not be in great detail or based on site specific modeling studies, but acknowledge what is known nationally about the problems of atmospheric deposition of mercury and how it is affecting this country's water bodies.

Vegetation and Wildlife

1. The Forest Service should work closely with the U.S. Fish and Wildlife Service (USFWS) and the Arizona Game and Fish Department to determine potential impacts of the project on plant and wildlife species, especially species classified rare, threatened, or endangered on either state or federal lists. The EIS should include the following information:

$ Identify all petitioned and listed threatened and endangered species and critical habitat that might occur within the project area;
$ Identify which species or critical habitat might be directly or indirectly affected by each alternative;
$ Include the biological assessment by reference or as an appendix, if one is prepared;
$ Discuss how and when the Forest Service intends to meet its obligations under Section 7 of the Endangered Species Act; and
$ If a biological opinion is prepared by the USFWS, it should be summarized or included as an appendix in the Final EIS to demonstrate that the preferred alternative is consistent with the biological opinion.

2. Poisoning of animals attracted to heap leach and tailings ponds can be a serious problem. The EIS should discuss the mitigation measures that would be taken to prevent exposure of migratory waterfowl and other wildlife to all toxic waters used in or resulting from processing the ore. Identify measures that would be used to prevent poisonings at solution impoundments, including maintenance requirements and monitoring to ensure their effectiveness.

3. In addition to jurisdictional waters of the U.S. discussed in the AWaters of the U.S.@ section above, the EIS should identify non-jurisdictional wetland and riparian habitat as well as other unique or important habitat areas that could be affected by the project. The EIS should discuss avoidance, minimization, and mitigation of losses or modification of habitat and plant and animal species composition. We recommend that the EIS include a detailed mitigation plan, such as that recommended in AWaters of the U.S.@ above, for replacement of important habitat adversely affected by the proposed project.

Mining Waste Management and Land Reclamation

1. The EIS should discuss any measures to be taken at the proposed project site to ensure compliance with applicable Resource Conservation and Recovery Act regulations.

2. The EIS should discuss the following components of waste management and reclamation plans:

- A detailed account of measures taken to decommission mine operations, stabilize slopes, and neutralize and cap waste rock, tailings, and leach heaps;
- Identification (including estimated acreage) of the areas targeted for reclamation, and description of the intended degree of treatment in each area;
- Estimation of all irrigation requirements;
- Timing of reclamation relative to mining operations and duration of reclamation treatment;
- Standards for determining and means of assuring successful reclamation; and
- Means of assuring that all maintenance required for reclaimed areas would continue after operations cease or while operations are suspended.

3. The EIS should describe the availability, properties, and sources of growth medium, discuss how growth medium will be applied to disturbed areas, and identify any additional measures (e.g., amendments) that may be needed to ensure successful reclamation and revegetation of the project site.

4. Executive Order 13112 on Invasive Species calls for the restoration of native plant and tree species. The EIS should describe how the project will meet the requirements of Executive Order 13112. We recommend revegetation be accomplished with native species indigenous to the area in order to restore the ecosystem to as natural a state as possible after mine closure. We also recommend that revegetation success be monitored and enforced for at least five years following revegetation efforts. First or second year success in meeting the revegetation standards is not necessarily indicative of long-term success.

5. The EIS should discuss provisions that would be made for post-operation surveillance to ensure that neutralization and/or stabilization of mining waste sites has been effective. Describe the mitigation actions that would be taken should destabilization or contamination be detected and identify who would be responsible for these actions.

6. EPA recommends the EIS identify the bond amounts for each closure and reclamation activity at all of the proposed project facilities. The EIS provides the public the opportunity to

weigh in on the adequacy of the bond amount, and the viability of the bond can be a critical factor in whether a project is environmentally acceptable. The EIS should also discuss how the Forest Service can modify the bond during the course of operations if temporary, long-term, or perpetual treatment and/or remediation needs are discovered during operations. Identify who would be responsible for any post-closure cleanup actions should they be necessary. In addition to determining the actual cost of reclamation, the bond calculation should consider the extra expense of taking over reclamation at a critical time during operations, such as when the water balance is high and surplus water must be treated, or when environmental or reclamation measures have not been successful in controlling pollution and must be redone. The EIS should describe bonding requirements or other measures that the Forest Service has in place to ensure funds would be immediately available should the mine operator or its insurer be unable to fund the required reclamation or closure activities.

7. The EIS should discuss whether long-term post-closure operations and maintenance may be necessary, describe these activities, indicate the projected costs for these activities, and discuss any requirements the Forest Service would impose on the mine operator to establish a trust fund or other funding mechanism to ensure post-closure care. The financial assurance necessary to fund post-closure activities must be kept current as conditions change at the mine, and the Forest Service should ensure that the form of the financial assurance does not depend on the continued financial health of the mine operator or its parent corporation. The EIS should include a general description of the trust fund. The amount and mechanics of the fund are critical to determining whether sufficient funds would be available to implement the post-closure plan and reduce the possibility of long-term contamination problems. The discussion in the EIS should include the following information:

- Projected costs for long-term post-closure activities;
- Requirements for timing of payments into the trust fund;
- How the Forest Service would ensure the trust fund would be bankruptcy remote;
- Acceptable financial instruments;
- Tax status of the trust fund;
- Identify the trust fund beneficiaries; and
- Identify the operator with responsibility/liability for financial assurance at this site.

If a long-term trust fund will be part of the proposed project, EPA believes this information is essential in the EIS because it could make the difference between a project sufficiently managed over the long-term by the site operator, or an unfunded/under-funded contaminated site that becomes a liability for the Federal government. In the absence of an appropriate guarantee, EPA could consider a project unacceptable if it could result in an unmitigated exceedence of environmental standards on a long-term basis.

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Environmental Justice

Executive Order 12898 on Environmental Justice addresses disproportionate adverse impacts of federal actions on minority and low-income populations. The EIS should identify minority and low-income populations, and address whether the alternatives would cause any disproportionate adverse impact, such as displacement, changes in existing resources or access, or community disruption. The document should also explore potential mitigation measures for any adverse environmental justice effects. The EIS should describe the measures taken by the Forest Service to: (1) fully analyze the environmental effects of the proposed Federal action on minority communities and low-income populations; and (2) present opportunities for affected communities to provide input into the NEPA process. The EIS should state whether the analysis meets requirements of your agency's environmental justice strategy.

Government-to-Government Consultation

We recommend that the EIS discuss the Forest Service=s consultation with all Native American tribal governments that could be potentially affected by the proposed project or may have resources (e.g., traditional cultural properties, groundwater resources) that could be affected. The principles for interactions with tribal governments are outlined in an April 29, 1994, presidential memorandum and Executive Order 13175, dated November 6, 2000. It is important that formal government-to-government consultation take place early in the scoping phase of the project to ensure that all issues are adequately addressed in the EIS.

Land Use

If the project area is currently grazed, the EIS should describe the potential impacts to livestock grazing in the project vicinity and discuss whether reduction in forage would necessitate a reduction in livestock grazing in the area for the duration of the project and/or after mine closure and reclamation. Identify any other special uses that would be displaced by the proposed project and discuss the proposed project's specific potential impacts to these uses.

Pollution Prevention

Pursuant to the Pollution Prevention Act of 1990,

Apollution should be prevented or reduced at the source whenever feasible; pollution that cannot be prevented should be recycled in an environmentally safe manner, whenever feasible; pollution that cannot be prevented or recycled should be treated in an environmentally safe manner whenever feasible; and disposal or other release into the

environment should be employed only as a last resort and should be conducted in an environmentally safe manner.@

There are significant opportunities for industry to reduce or prevent pollution at the source through cost-effective changes in production, operation, and raw materials use. Such changes offer mining companies substantial savings in reduced raw material, pollution control, and liability costs as well as help protect the environment and reduce risks to worker health and safety. New pollution prevention techniques are being developed that have promising applications to the mining industry. We recommend that the Forest Service and the mining company actively pursue effective pollution prevention techniques to prevent or reduce pollution at the proposed mine.

Climate Change

EPA recommends that the EIS identify the cumulative contributions to greenhouse gas emissions that will result from implementation of the project. In addition, we recommend the EIS discuss the potential impacts of climate change on the project. The EIS should also identify any specific mitigation measures needed to 1) protect the project from the effects of climate change (e.g., changes to storm magnitude or frequency), 2) reduce the project's adverse air quality effects, and/or 3) promote pollution prevention and environmental stewardship. Any sustainable design and operation measures that can be identified as reducing greenhouse gases should be identified in the EIS with an estimate of the greenhouse gas emissions reductions that would result if measures were implemented.

Cumulative Impacts

According to the Council on Environmental Quality (CEQ) regulations implementing NEPA, a cumulative impact is A...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.@ [40 CFR ' 1508.7].

Cumulative impacts analyses are important to the EIS as they describe the threats to resources as a whole. Understanding cumulative impacts can illuminate opportunities for minimizing those threats. The EIS should describe the potential cumulative impacts associated with the proposed project and alternatives, as well as the methodology used to assess them. Guidance on how to analyze cumulative impacts has been published by the CEQ [1] and EPA.[2] In

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[1]Considering Cumulative Effects Under the National Environmental Policy Act, Council on Environmental

addition, you may also wish to refer to http://www.dot.ca.gov/ser/cumulative_guidance/purpose.htm. This cumulative impact guidance was prepared by the California Department of Transportation, the Federal Highway Administration, and EPA Region 9 for transportation projects in California. However, the principles and the 8-step process in this guidance can be applied to other types of projects, both within and outside of California. We recommend the principles and steps in this guidance to other agencies as a systematic way to analyze cumulative impacts for their projects.

We have the following recommendations for structuring cumulative impacts analyses:

- The description of the affected environment should focus on each affected resource or ecosystem. Determination of the affected environment should not be based on a predetermined geographic area, but rather on perception of meaningful impacts and natural boundaries.
- Focus on resources of concern, i.e., those resources that are Aat risk@ and/or are significantly affected by the proposed project, before mitigation. Identify which resources are analyzed, which ones are not, and why;
- Identify all other on-going, planned, and reasonably foreseeable projects in the study area, not just mining projects, which may contribute to cumulative impacts. Where studies exist on the environmental impacts of these other projects, use these studies as a source for quantifying cumulative impacts;
- Include appropriate baselines for the resources of concern with an explanation as to why those baselines were selected; and
- When cumulative impacts occur, mitigation should be proposed. Clearly state who will be responsible for mitigation measures and how mitigation implementation will be ensured.

Quality, January 1997. http://ceq.eh.doe.gov/nepa/ccenepa/ccenepa.htm

[2]Consideration of Cumulative Impacts in EPA Review of NEPA Documents, U.S.EPA, May 1999. http://www.epa.gov/compliance/resources/policies/nepa/index.html

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