Examples

A collection of all the examples utilised.

PROBLEM

The future scene states that the sediments that result from processing magnesium are poured back into the ocean and cause clouding of the water for extended periods. There is a strong possibility that the noxious chemicals causing this clouding may damage the ecosystems which exist in oceanic habitats. This may present a challenge as sea life present in these areas could be affected by the poisonous chemicals released during the extraction of magnesium.

UNDERLYING PROBLEM

Since the future scene states that the long term health of the planet is largely dependent on the well-being of the oceans, it is important to ensure that the oceanic environment is not degraded. Research in the 1990's by the United Nations showed that oceans were a key component in the operation of global environmental systems. In what ways might we improve the disposal of wastes from Roving Mine Islands in the oceans so as to decrease their environmental impact on the oceans in 2046 and beyond?

SOLUTION

We, the ECO (Engineering for Communities Offshore) will design a fully equipped recycling centre to be built on all RMIs. The waste materials from the RMIs will be recycled daily so that it does not accumulate and create a health hazard for the workers and so it will not be dumped into the ocean. The by-products from the recycling can then be dispose of more efficiently, protecting the environment.

CRITERIA

1. Which solution will be the most effective method of disposing of waste materials from the RMI?
2. Which solution will have the most positive environmental impact on oceanic ecosystems?
3. Which solution will provide the most effective long term method for the disposal of waste from the RMIs?
4. Which solution will be the most cost efficient method for disposing of waste from the RMIs?
5. Which solution will be the most acceptable to environmentalists and marine biologists alike?

APPLICATION OF CRITERIA

Solution No°	Solutions	Criteria 1	Criteria 2	Criteria 3	Criteria 4	Criteria 5	Total
1	Genetically Engineered Microbe	8	8	8	4	7	35
5	Fertiliser for Algae Fields	6	4	3	3	5	21
9	NERDS	7	5	7	5	4	28
3	Filter System for Dredges	4	7	6	7	3	27
10	RMI International Licenses	2	3	4	1	8	18
4	Silicone Tarps Under RMIs	3	1	1	6	1	12
8	Send Waste into Space	1	2	2	1	2	8
6	Use Waste as Fuel for RMIs	5	6	5	8	6	30

ACTION PLAN

We feel that the most effective method for dealing with waste disposal from the RMIs is to have geneticists at the American Biogenetic Corporation create a microbe that would feed off waste products. This microbe would be created by replacing a pair of DNA strands in a specific strand of Spirochaete bacteria. The bacteria will become attracted to, and will in fact be able to feed on unwanted substances given off in the RMI mineral refinement process.

When the bacteria are then introduced to the waste products, it would feed on the wastes. This process would be done inside a sealed lab that wouldn't allow the bacteria to cause and harm. When the bacteria were not allowed to feed on the waste products, they would begin to cannibalise each other. With this destruction of the of the bacteria, the adverse effects of the refinement process would be greatly reduced. This, therefore would allow the RMIs to mine the mineral without the adverse effects of the waste products.

The microbe would also feed off other types of waste products from the RMIs such as human waste. By disposing of waste in this manner, the operation of the RMIs will not be a threat to the ocean environment.

The development of the microbe will take place over a five-beat period, with the aim of implementing it in 2040. Until that time, all RMIs will be required to improve their waste disposal methods by using enclosed hard silicone tarps suspended underneath the RMIs to transport all waste back to home base.