CAERPHILLY COUNTY BOROUGH COUNCIL

RHYMNEY VALLEY TASK GROUP

MINUTES OF THE MEETING HELD AT THE COUNCIL OFFICES, TREDOMEN ON WEDNESDAY, 11TH MARCH 1998 AT 3.00 P.M.

PRESENT:

Simon Jackson - Chairman

Councillors:

J. Wood and T.J. Williams

Together with:

Special Project Officer and Committee Services Manager.

Also Present:

A. Robinson (Environment Agency), D. Stafford (Coal Authority), R. Woodyatt (River Rhymney Federation of Angling Clubs).

APOLOGIES

An apology for absence was received from Councillor P. Slarke.

MINUTES

The minutes of the last meeting of the Task Group held on 29th September 1997 (a copy of which had been circulated to all present) were agreed as a correct record.

DRAFT FEASIBILITY REPORT

Following the appointment of Hyder Consulting to carry out a feasibility study on the River Rhymney minewater discharge the Chairman welcomed to the meeting from Hyder Consulting, Mr. Richard Coulton, Principal Engineer and Mr. Ian Hay, Hydrogeologist.

With the aid of slide presentations they gave a review of the remediation options.

The discharge of minewater at Tiryberth had occurred as a result of the regional geological conditions within the Rhymney Valley. Previous hydrogeological investigations had concluded that the minewater issues were as a result of drainage paths created by adits driven to work the Mynyddislwyn Seam.

A review of the remediation options had been undertaken as part of this study and the following conclusions arrived at:-

- The geological structure of the Mynyddislwyn Seam was such that measures to control the minewater drainage problem at source were unlikely to be suitable. In particular, the potential catchment area for water discharging at this location was estimated to extend at some 20km²;

- Although it would be technically feasible to reduce the water level within the mine and hence the flow issuing at Tiryberth by drilling a drainage hole to connect into Britannia Colliery, some form of treatment would be required for the diverted flow;

- In situ treatment to remove iron using sulphate reducing bacteria was considered to be technically feasible but was both unproven and may adversely affect water quality in the receiving water course. Significant studies and small scale field trials would be necessary to demonstrate that this option was acceptable to the Environment Agency;

- The use of active (chemical) treatment to remove the iron was both technically feasible and proven. However, due to the magnitude of the flow, the estimated capital cost of the scheme was £2.6m with an indicative whole life cost over 25 years of £6.8m;

- Passive treatment in an aerobic wetland would provide an acceptable treatment option within an indicative capital and 25 year whole life cost of £0.6m and £2.2m respectively. Construction of the 0.9ha wetland would however be difficult due to incised nature of the river and the absence of flat land which could be reached by the minewater using gravity flow. As a consequence pumping may be required to feed the collected minewater to the wetland;

- The use of an oxidation ditch to precipitate the iron and return it to the river in a suspended solid, rather than dissolved form would reduce the visual impact caused by iron precipitation on the river bed and would reduce the dissolved iron concentration in the receiving water course. The quality of the River Rhymney was already poor in comparison with other clean rivers due to general pollution and therefore further studies would be required to assess whether the resultant iron loading would be acceptable;

- Construction of an oxidation channel would involve an estimated initial cost of £0.28m with an indicative total expenditure over 25 years of £0.6m;

Based on the conclusions from this study the following were recommended by the consultants for consideration by the task group:-

- The frequency of monitoring and sampling minewater discharges should be increased to monthly visits to provide sufficient data to assess whether there are any temporal change in minewater characteristics;

- Monthly monitoring and sampling at both the upstream and downstream river locations at Tiryberth was needed to quantify the seasonal variation in river water quality;

- The Environment Agency Juvenile Fish Survey due to take place in the summer should include an enhanced level of survey in the vicinity of Tiryberth;

- The socio-economic report being prepared by RPA should be incorporated into the final stage 2 report. (The preliminary findings were outlined to the meeting).

- Laboratory tests and trials on the mine water should be undertaken to establish the rate of iron precipitation following oxygenation. (This would require a supplementary cost indicated at around £1,500 - the consultants will provide a firm proposal following discussion with the Environment Agency);

- Subject to confirmation that the existing iron loading could be tolerated in the river, consideration should be given to installing an oxidation channel;

- Should these studies conclude that a significant reduction in iron loading in the Rhymney was necessary it was recommended that an aerobic wetland was constructed to treat the flow. Provided agreement can be reached with the Environment Agency to set a discharge consent for the wetland or to set a relatively high limit for iron, it was recommended that the wetland should be sized to meet the abandoned mine criteria and not the discharge consent criteria. This would require the construction of a wetland occupying an area of approximately 0.45ha which could be constructed at a cost of some £0.4m (excluding land purchase);

- If a substantial reduction in iron loading was considered necessary and a strict discharge consent would be imposed it was recommended that a 0.9ha aerobic wetland was constructed at an estimated cost of £0.6m.

Recommendations on the socio economic report considered that the aesthetic quality of the site was the key concern but overall the socio economic benefits would be marginal. Any potential benefits would be informal recreation, angling, property amenity, tourism and ecological value.

There followed a discussion of the issued raised on the presentation. Councillor Woodyatt queried the evaluation of the benefits of remedying the pollution. He pointed out that the present sewage pollution problems should be removed by the end of the decade; that it was likely that salmon and sea trout would start to establish runs after pollution problems were resolved and that there were plans for a Rhymney Valley path. The consultants acknowledged that benefits should be evaluated over a 25 year period and that may need to be split between the first five years as the river now is and the remaining 20 years when the above mentioned improvements will have increased the value of the river considerably.

It was agreed that the formal observations would be sought from members on the Task Group. When these comments had been received a further meeting would be held possibly in the week commencing 27th April.