

Flip Charts - Comments/Questions on TCD Presentation  
August 13, 2003

Pre-construction monitoring as well as post-construction  
- not an extensive requirement  
- post-construction monitoring of change is vital

NEPA Compliance paid for by Section 8 \$ -  
- NO, \$ for pre-construction monitoring (AMP?)

Pilot project – cost = \$30-70 million for the entire project/approx. \$10M/unit construction alone  
- more flexibility with 2 units in the pilot project (Ken Rice)

Visitor risk – drinking, swimming, cooking, etc.  
no major increase in risk (Garrett)

Pilot Project of 2 units – how much of temperature increase? Can be monitored? Will determine how much of an increase is possible.

Q: Pilot project: will not allow evaluation of biological impact – are 2 units sufficient?

A: Probably can't fully evaluate biological impact.

Pilot is not to determine go/no-go but to learn and better implement the balance of the program.

Two units will alleviate thermal shock at mouth of LCR.

Q: What is mitigation of anticipated adverse impacts?

A: some mitigated actions  
- flow regimes (at certain times with TCD to enhance)  
- mechanical removal,  
- flow and removal in combination

Q: Visitor impacts – was human health risks and socio-economic impacts of the Hualapai Tribe considered?

- assessment from others in similar riverine systems is no negative impact

Diamond Creek will be 20-21°, up from 15-16°, 19-20° during LSSF.

Ability to reverse negative impacts – channel catfish increase and tapeworm increase – not addressed

- Don't know how to reverse – by SAs

Don't anticipate tapeworm unless temperature >24°

SAs: Need effective and accurate monitoring to identify problems, that modeling to help predict, and that mitigative strategies be developed

Mosquito and implications on human health – 2 specialists did not think there would be a major change (↑ mosquitos during LSSF below National Canyon)

No negative impact foreseen to Lake Mead

Maximum temperature in river? 20-20° C or 15-16° (60-65°F) (too high for bearings?)  
- 80% would be lethal to salmonids

During low water years, will fewer turbines used, 2 TCD units could increase temperature significantly

Q: Uncertainty with drought conditions – will there be native fish in 20 years?

A: Will require new management capabilities such as TCD, not guaranteed

Natural chaos evades mechanical control

Timing of temperature increase may not help spawning

Q: Possible to do modeling in advance to reduce risk?

A: Yes – quality of input determines quality of output – to determine success of TCD it has to be in place – a function of science and management

Should BNT be removed Hance Wallenburg in preventive way? Yes –

Q: Cost of >\$200 million? What are operational costs detail?

A: Source: Hartman (Sp?) may be less than \$200 million – this is realistic but high.

Economic impacts in original EIS which were flawed – make sure those mistakes aren't carried forward.

Pilot project makes sense economically in flat budget years.

Without TCD, recruitment will stay flat. Try it, if vampires merge, stop.

WAPA: continue science, not opposed to pilot project, want to ensure impacts are fully described

Will efficiency of turbines be reduced? WAPA wants to discuss with BOR.

We have to see TCD as an opportunity. What needs to be addressed? Need to have fish elsewhere in case TCD fails.

Q: Increased evaporation in Lake Mead- mitigation measures?

A: Not considered in depth, we didn't think it would be a major issue.

Q: Selenium impacts in native fish?

A: not considered

Decrease in generating capacity because cooler water = more efficient power production. Unclear how to mitigate.

NEPA compliance waiting for AMWG recommendation

Cataract Canyon – native fish have not benefited from warmer water

TCD not silver bullet – one of many strategies to work in concept of the others

Discussion/comments noted after Motion was proposed:

- Don't know enough to do a full EIS but can base on analysis done so far to do a pilot project
- Wonder if we need more specific NEPA on what and when? By 2007? Or stalling?
- Has determination been made that an EIS is needed? Whether to use pilot project as an alternative? Decide on whether there are potential significant impacts to warrant an EIS?
- You need to deliver a FONSI but can have a mitigated impact. See three different possibilities. Do compliance on full project or in stages?
- Need to move forward with building the TCD
- Ensure dollars are there → long-term monitoring plan, mitigation plans, etc.
- Reclamation can look at more closely. Not sure 2007 is realistic but can report in January 2004.
- The NEPA process is intended to get issues on the table and to study the environmental impact to the alternatives presented and get to mitigation if warranted.
- Don't think 2007 will do us any good. It's too pre-decisional.
- Suggest Reclamation complete the NEPA process by a certain date.
- An EIS could take 2 years to complete
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