Advice from Robert Golec, Principal Occupational Hygienist

"I have reviewed the water analysis results. The only relevant result for the Hara Dam is the PAH analysis for sample 03040/7 which detected 0.010 mg/L of total PAHs. The only two PAH compounds detected in this sample was naphthalene (0.008 mg/L) and phenathrene (0.002 mg/L), which are considered to be two PAHs which have not been designated as being human carcinogens by the International Agency for Research on Cancer. The only water quality guidelines available to evaluate these results is the Australian Drinking Water Guidelines which state that for potable water, the content of benzo[a]pyrene (a designated carcinogenic PAH) should be less than 0.0007mg/L. No benzo(a)pyrene was detected in this Hara Dam water sample.

In terms of potential exposure to naphthalene and phenanthrene from contact with the Hara Dam water, Safe Work Australia has set an occupational exposure standard for naphthalene of 10 parts per million (equivalent to 52 mg/m^3) as an average exposure level in the breathing zone over an 8-hour day/40-hour week for an entire working life time. It is considered that given the very small concentration of naphthalene in the water sample it is not possible for an individual to inhale enough water droplets or vapour to absorb the equivalent amount of naphthalene to being exposed for 24-hours at the exposure standard. Additionally, it is not possible for a person to ingest enough water to absorb this dose of naphthalene. Likewise, the amount of absorption of naphthalene through the skin would be considered negligible.

There is no exposure standard for phenanthrene, based on its toxicity, similar conclusions are drawn regarding the degree of potential exposure to that of naphthalene.

On the basis of the above information and consideration, it is concluded that the water testing results so far indicate that there is negligible risk of PAH exposure to fire fighters from contact with the Hara Dam water . I note that there are some results pending for metals analysis for the sediment from the Hara Dam and I will review these when available."

Regards,
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