TABLE 5-2

SUMMARY OF DISINFECTION TECHNOLOGIES

ALTERNATIVE	REGULATORY REQUIREMENTS	EFFLUENT QUALITY	FLEXIBILITY	ENERGY USE	LAND REQUIREMENTS	POTENTIAL FOR AIR EMISSIONS	ANTICIPATED PUBLIC ACCEPTANCE	EASE OF IMPLEMENTATION	MAINTENANCE REQUIREMENTS AND COMPLEXITY OF OPERATION	RELATIVE CAPITAL COSTS	RELATIVE O&M COSTS	SELECTED FOR FURTHER EVALUATION
Chlorination using Sodium Hypochlorite	Chemical storage requirements	Fecal coliform of <200/100 ml. Potential production of THM in effluent.	Process control will vary the chemical feed rate with variable effluent flows.	Low energy use for chemical feed only.	Highest for chlorine contact tank.	Minimal for stored liquid chlorine solutions.	High, with sufficient precautions in case of chemical release.	Requires the construction of a new large contact tank.	Well-proven technology, with proven reliability. Minimal maintenance.	Moderate cost for new contact tanks and feed equipment.	Moderate due to costs for NaOCl.	No, due to liabilities of hypochlorinite transportation and storage, potential THM production in the groundwater.
Disinfection with ozone	Chemical storage requirements	Fecal coliform of <200/100 ml.	Process control will vary the chemical feed rate with variable effluent flows.	High electricity use for generation of ozone.	Low	Potential release of ozone gas. Off-gas is normally treated to remove (and destroy) ozone.	High, with sufficient precautions in case of chemical release.	Easy	More complicated equipment with maintenance.	High costs for ozone equipment.	High electrical cost for generation of ozone.	No, due to high capital and O&M cost and less proven technology in the United States.
Disinfection with UV radiation	None	Fecal coliform of <200/100 ml.	Less process control. Unable to adjust to variable effluent flows.	Moderate electricity use to power UV bulbs.	Low	Minimal potential because no gases are used.	High public acceptance.	Easy	UV radiation is an accepted technology, with proven reliability. UV bulbs must be cleaned.	Moderate costs for UV radiation equipment.	Moderate electrical cost to power bulbs and maintenance costs to clean and replace bulbs.	Yes