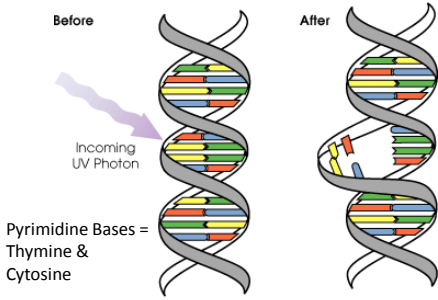




### UV Radiation Induces Pyrimidine Dimers Disrupts DNA Replication



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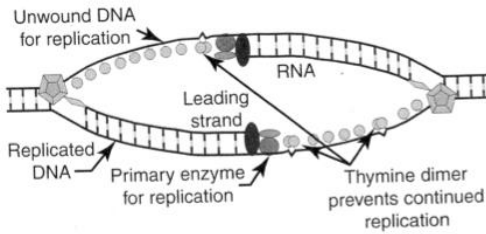
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### UV Radiation Induces Pyrimidine Dimers Disrupts DNA Replication



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### UV Lamps



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## UV Lamp Types

- Low Pressure Hg Vapor (Amalgam)
  - Higher biocide efficiency
  - Lower power, lower temperature
  - Longer lamp life
  - Lots of lamps needed for large flows
  - Hence mostly in smaller plants

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## UV Lamp Types

- Medium Pressure Hg Vapor
  - Broader UV spectrum
  - Penetrate water better
  - Higher power use per tube, higher temp
  - Hotter tubes tend to foul more easily
  - Fewer tubes needed
  - Hence more efficient per watt for large flows

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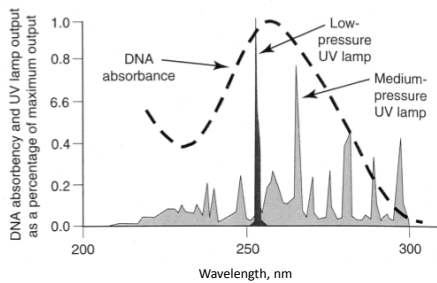
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Comparative Spectra:  
Low and Medium Pressure UV Lamps



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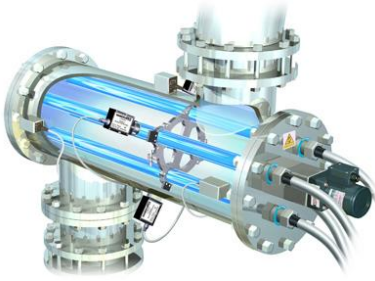
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### UV Disinfection Equipment



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### Marine Park WWTP, Vancouver WA



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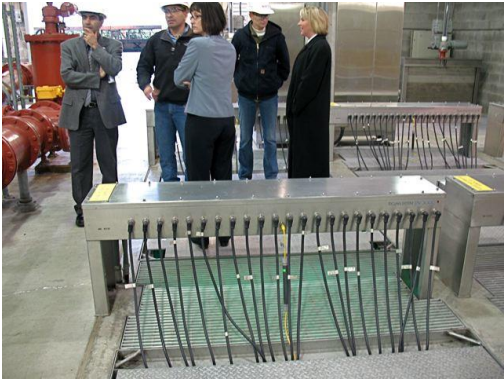
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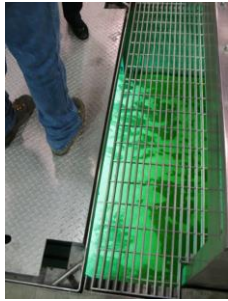
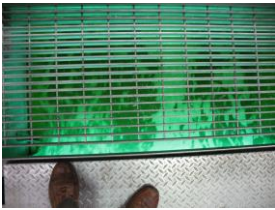
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Aesthetics at Marine Park WWTP



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