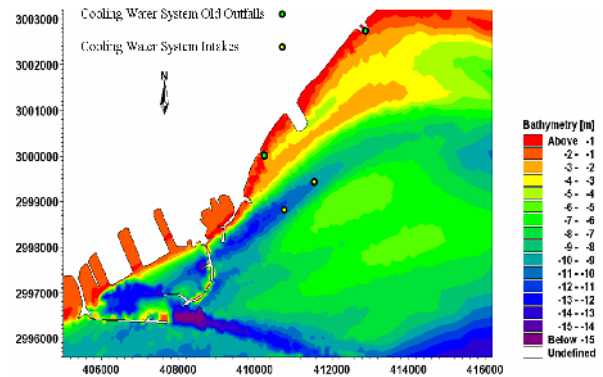


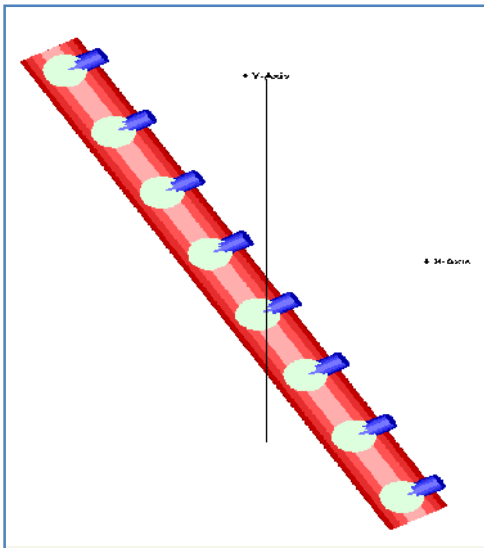
Environmental Impact Assessment in Persian Gulf Considering Thermal Pollution Sources of Industrial Plants

A. Najafi-Jilani

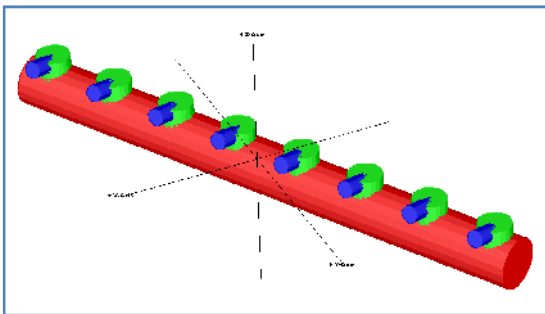
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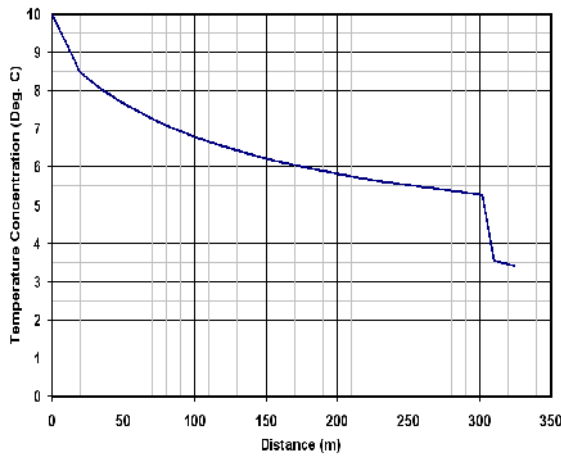
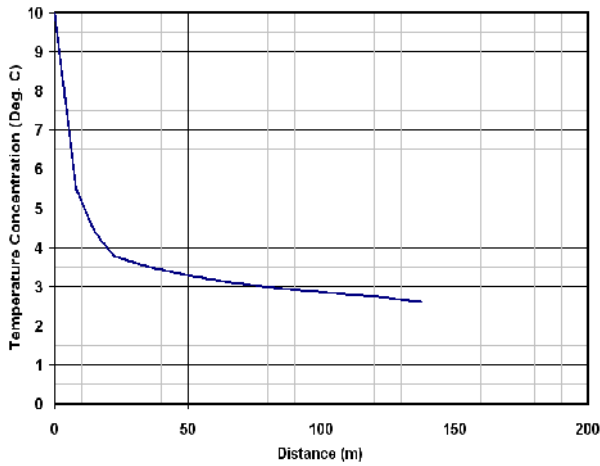
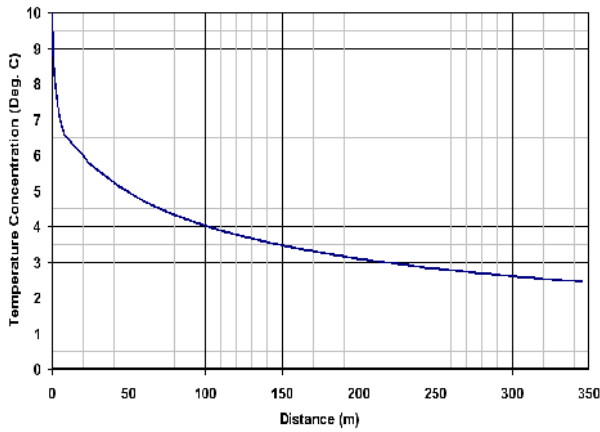


Situation	Outfall Discharge (m ³ /s)	Outfall Mass Velocity (m/s)	outfalls Temperature (°C)
Powerhouse	55.56	1.26	45
Exist Oil Refinery	11.11	1.12	45
New Oil Refinery	55.56	1.00	45

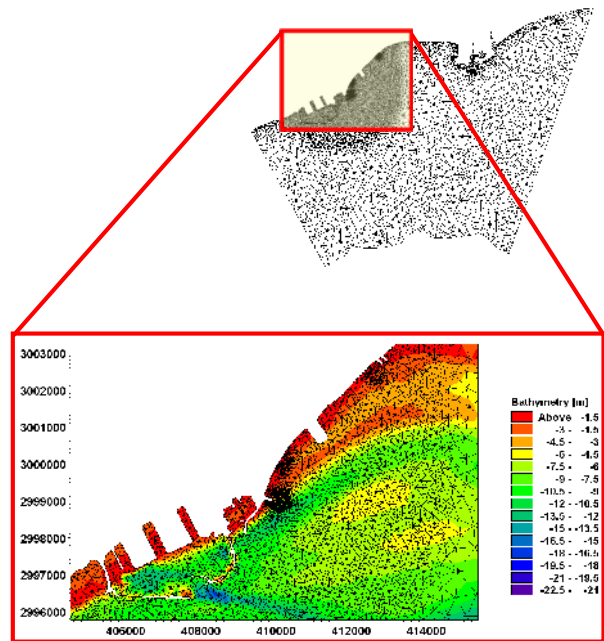


Pollutant or parameter	Limit
pH	6-9
BOD	50
COD	250
Oil and grease	10
TSS	50
Heavy metals, total	10
Arsenic	0.1
Cadmium	0.1
Hexavalent	0.1
Total	0.5
Copper	0.5
Iron	3.5
Lead	0.1
Mercury	0.01
Nickel	0.5
Selenium	0.1
Silver	0.5
Zinc	0.2
Free	0.1
Total	1.0
Ammonia	1.0
Fluoride	20
Chlorine, total residual	0.2
Phenols	0.5
Phosphorus	2.0
Sulfide	1.0
Coliform bacteria	< 400 MPN/100 ml
Temperature increase	Maximum 3°C above of receiving water ⁹





Outfall	Input Data			Outfall				
	Discharge Speed (m/s)	Discharge Magnitude (m ³ /hr)	Additional Temperature (°C)	Hydrodynamics centerline Dilution	Remain Temperature (°C)	Discharge Speed (m/s)	Discharge Magnitude (m ³ /hr)	Artificial Discharge Magnitude (m ³ /hr)
New Refinery	4.00	200,000	10.00	2.60	3.83	1.54	520,000	320,000
Exist Refinery	1.12	40,000	10.00	2.60	3.81	0.43	104,000	64,000
Powerhouse	1.26	200,000	10.00	1.70	5.90	0.74	340,000	140,000



No.	Tidal situation	Outfall Discharge (m ³ /hr)	Outfall Depth (m) from CD	Outfall Dir. (deg.)	Wind Vel. And Dir.	Coast Condition
1	Neap Tide	200,000	2	180	No Wind	Existing
2	Spring Tide	200,000	2	180	No Wind	Existing
3	Spring Tide	200,000	2.5	180	No Wind	Existing
4	Neap Tide	200,000	3	180	No Wind	Existing
5	Spring Tide	200,000	3	180	No Wind	Existing
6	Spring Tide	200,000	3	180	11 m/s- 120	Existing
7	Spring Tide	200,000	3	180	15 m/s- 300	Existing

