Hendrina wet ash disposal facility - EIA and Waste License Application

Groundwater specialist study

Significance Rating Table

Construction Phase

wet ash disposal facility - Site E

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
Deterioration of groundwater quality due to leachate from initial ash slurry	**Nature of impact:**	Rainwater percolating through ash together with slurry or supernatant water will migrate downwards towards the water table and most							
	with	1	2	2	5	25	Low	-	high
	without	2	4	2	5	40	Medium	-	high
	degree to which impact can be reversed:	It will be difficult to reverse this impact. It is more feasible to reduce the amount of leachate as much as possible by ensuring that the under-drain and related systems work as designed.							high
	degree of impact on irreplaceable resources:	Since the impact is likely to be on local groundwater only, and this resource can be replaced, the degree of impact is likely to be low							medium
Deterioration of groundwater quality due to spillages during construction	**Nature of impact:**	Spillages of hydrocarbons (e.g. diesel) or solvents or other pollutants during the construction phase may have an impact on the quality of							
	with	1	2	2	1	5	Low	-	medium
	without	2	4	2	3	24	Low	-	medium
	degree to which impact can be reversed:	Once fuel, solvents or other pollutants are spilled and begin to migrate downwards, reversing the impact is difficult and expensive - i.e. the degree to which the impact can be reversed is low. However, if appropriate precautions are taken during the construction phase (e.g. the bunding of refuelling and fuel storage areas, control of all							high
	degree of impact on irreplaceable resources:	Since the impact is likely to be on local groundwater only (MODEL!), and this resource can be replaced, the degree of impact is likely to be low							medium
Rise in water table during initial slurry deposition	**Nature of impact:**	There is likely to be a small rise in the water table in the vicinity of the wet ash disposal facility due to water percolating downwards							
	with	1	1	2	4	16	Low	-	medium
	without	2	1	2	4	20	Low	-	medium
	degree to which impact can be reversed:	The impact can only be fully reversed once slurry deposition and percolation of extra water downwards ceases completely. Since slurry deposition etc will not be ceased during the construction phase, the degree to which the impact can be reversed is thought to be low.							medium
	degree of impact on irreplaceable resources:	Minor							medium

wet ash disposal facility - No-Go Alternative

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
No change to groundwater conditions at the site	**Nature of impact:**	If the wet ash disposal facility is not built, then it is likely that there will be no change to the groundwater conditions underlying the							
	with	2	1	4	4	28	Low	+	high
	without	2	1	4	4	28	Low	+	high
	degree to which impact can be reversed:	This positive impact (i.e. not building the wet ash disposal facility) could be reversed if some future activity affected the groundwater underlying the proposed site.							high
	degree of impact on irreplaceable resources:	Groundwater resource near the proposed site is not considered to be irreplaceable, in the sense that alternative sources of water can be found if needed.							medium

Pipeline Route 1

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
Possible deterioration in local groundwater quality	**Nature of impact:**	It is possible that construction of the pipeline could lead to local deterioration in groundwater quality if pollutants of any sort are							
	with	2	2	2	1	6	Low	-	medium
	without	2	4	4	1	10	Low	-	medium
	degree to which impact can be reversed:	Once pollutants are put into trench, reversing the impact would be fairly difficult - necessitating re-excavation of the trench, etc. If appropriate precautions are taken however, it is likely that the risk can be almost completely avoided.							medium
	degree of impact on irreplaceable resources:	The groundwater resource along the pipeline route is not considered to be irreplaceable, in the sense that alternative sources of water could be found if needed.							medium

Pipeline Route 2

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
Possible deterioration in local groundwater quality	**Nature of impact:**	It is possible that construction of the pipeline could lead to local deterioration in groundwater quality if pollutants of any sort are							
	with	2	2	2	1	6	Low	-	medium
	without	2	4	4	1	10	Low	-	medium
	degree to which impact can be reversed:	Once pollutants are put into trench, reversing the impact would be fairly difficult - necessitating re-excavation of the trench, etc. If appropriate precautions are taken however, it is likely that the risk can be almost completely avoided.							medium
	degree of impact on irreplaceable resources:	The groundwater resource along the pipeline route is not considered to be irreplaceable, in the sense that alternative sources of water could be found if needed.							medium

Pipeline - No-Go Alternative

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
If the pipeline route is not changed, there is likely to be no change to existing groundwater conditions,	**Nature of impact:**								
	with								
	without								
	degree to which impact can be reversed:								

and no potential impact.	**degree of impact on irreplaceable resources:**								

Transmission Line - Corridor 1

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
Possible deterioration in local groundwater quality	**Nature of impact:**	It is possible that construction of the power lines could lead to local deterioration in groundwater quality if pollutants of any sort are							
	with	2	2	2	1	**6**	**Low**	-	medium
	without	2	4	4	1	**10**	**Low**	-	medium
	degree to which impact can be reversed:	Once pollutants are introduced into the ground, reversing the impact would be fairly difficult - necessitating re-excavation, etc. If appropriate precautions are taken however, it is likely that the risk can be almost completely avoided.							medium
	degree of impact on irreplaceable resources:	The groundwater resource along the power line route is not considered to be irreplaceable, in the sense that alternative sources of water could be found if needed.							medium

Transmission Line - Corridor 2

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
Possible deterioration in local groundwater quality	**Nature of impact:**	It is possible that construction of the power lines could lead to local deterioration in groundwater quality if pollutants of any sort are							
	with	2	2	2	1	**6**	**Low**	-	medium
	without	2	4	4	1	**10**	**Low**	-	medium
	degree to which impact can be reversed:	Once pollutants are introduced into the ground, reversing the impact would be fairly difficult - necessitating re-excavation, etc. If appropriate precautions are taken however, it is likely that the risk can be almost completely avoided.							medium
	degree of impact on irreplaceable resources:	The groundwater resource along the power line route is not considered to be irreplaceable, in the sense that alternative sources of water could be found if needed.							medium

Transmission Line - No-Go Alternative

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
If the power line route is not changed, there is likely to be no change to existing groundwater conditions, and no potential impact.	**Nature of impact:**								
	with								
	without								
	degree to which impact can be reversed:								
	degree of impact on irreplaceable resources:								

Hendrina Wet Ash Disposal Facility - EIA and Waste License Application

Groundwater specialist study

Significance Rating Table

Operational Phase

wet ash disposal facility - Site E

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
Deterioration of groundwater quality due to ash leachate	**Nature of impact:**	Rainwater percolating through ash together with slurry or supernatant water will migrate downwards towards the water table and most							
	with	2	3	4	4	**36**	**Medium**	-	high
	without	2	3	6	4	**44**	**Medium**	-	high
	degree to which impact can be reversed:	It will be difficult to reverse this impact during wet ash disposal facility operation. It is more feasible to reduce the amount of leachate as much as possible by ensuring that the under-drain and related systems work as designed. When deposition ceases, natural attenuation over many years is likely to slowly reverse the impact.							high
	degree of impact on irreplaceable resources:	Since the impact is likely to be on local groundwater only, and this resource can be replaced, the degree of impact is likely to be low							medium
Deterioration of groundwater quality due to other sources of pollution	**Nature of impact:**	If any other polluting substances are disposed onto the wet ash disposal facility (i.e. apart from the ash itself) this may lead to local							
	with	1	2	2	1	**5**	**Low**	-	medium
	without	2	4	8	2	**28**	**Low**	-	medium
	degree to which impact can be reversed:	The degree to which pollution from other sources can be reversed will depend on the pollutant (properties, volume, time over which disposed, etc). It will be much cheaper and easier to ensure that no other pollutants are disposed onto the wet ash disposal facility in the first place. Note that such disposal would be illegal, the power							high
	degree of impact on irreplaceable resources:	Certain types of pollutants (e.g. highly toxic, persistent pollutants) could impact on the local water resources, causing harm to the environment, ecosystems and even people. This risk can be almost entirely avoided by regulating what gets disposed of onto the wet ash disposal facility, however, and this impact is though to be							medium
Rise in local water table due to additional recharge caused by slurry deposition	**Nature of impact:**	The local water table is likely to rise beneath the wet ash disposal facility, and in the near vicinity, due to the water percolating downwards							
	with	2	4	2	3	**24**	**Low**	-	medium
	without	2	4	2	4	**32**	**Medium**	-	medium
	degree to which impact can be reversed:	It is assumed that the main mitigation mechanism will be the under-drain and penstock system. This system won't be able to completely remove the impact hower. Once deposition stops, it is likely that the local water table will begin to decline again.							medium
	degree of impact on irreplaceable resources:	This impact is thought to be low.							medium
Change in local groundwater flow directions due to rise in local water table	**Nature of impact:**	It is possible that the groundwater flow directions will be altered locally due to the rise or "mounding" of the local water table. This may							
	with	2	4	2	3	**24**	**Low**	-	medium
	without	2	4	2	3	**24**	**Low**	-	medium
	degree to which impact can be reversed:	This impact is only practically reversible once deposition ceases and water table conditions return to their pre-deposition state.							medium
	degree of impact on irreplaceable resources:	This impact is thought to be low.							medium

wet ash disposal facility - No-Go Alternative

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
No change to groundwater conditions at the site	**Nature of impact:**	If the wet ash disposal facility is not built, then it is likely that there will be no change to the groundwater conditions underlying the							
	with	2	4	4	4	**40**	**Medium**	+	medium
	without	2	4	4	4	**40**	**Medium**	+	medium
	degree to which impact can be reversed:	This positive impact (i.e. not building the wet ash disposal facility) could be reversed if some future activity affected the groundwater underlying the proposed site.							medium
	degree of impact on irreplaceable resources:	The groundwater resource at the proposed site is not considered to be irreplaceable, in the sense that alternative sources of water can be found if needed.							medium

Pipeline Route 1

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
No impacts on local groundwater anticipated	**Nature of impact:**								
	with								
	without								
	degree to which impact can be reversed:								
	degree of impact on irreplaceable resources:								

Pipeline Route 2

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
No impacts on local groundwater anticipated	**Nature of impact:**								
	with								
	without								
	degree to which impact can be reversed:								
	degree of impact on irreplaceable resources:								

Pipeline - No-Go Alternative

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
No impacts on local groundwater anticipated	Nature of impact:								
	with								
	without								
	degree to which impact can be reversed:								
	degree of impact on irreplaceable resources:								

Transmission Line - Corridor 1

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
No impacts on local groundwater anticipated	Nature of impact:								
	with								
	without								
	degree to which impact can be reversed:								
	degree of impact on irreplaceable resources:								

Transmission Line - Corridor 2

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
No impacts on local groundwater anticipated	Nature of impact:								
	with								
	without								
	degree to which impact can be reversed:								
	degree of impact on irreplaceable resources:								

Transmission Line - No-Go Alternative

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
No impacts on local groundwater anticipated	Nature of impact:								
	with								
	without								
	degree to which impact can be reversed:								
	degree of impact on irreplaceable resources:								

Hendrina Wet Ash Disposal Facility - EIA and Waste License Application

Groundwater specialist study

Significance Rating Table

De-Commissioning / Rehabilitation Phase

wet ash disposal facility - Site E

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
deterioration of groundwater quality due to leachate	**Nature of impact:**	Leachate from the wet ash disposal facility is likely to continue to percolate downwards even when slurry disposal has ceased, albeit at a							
	with	2	3	2	3	**21**	**Low**	-	high
	without	2	4	4	3	**30**	**Low**	-	high
	degree to which impact can be reversed:	This impact can be significantly mitigated against, but cannot be entirely reversed. If the drainage system is kept functional, groundwater monitoring continues and the wet ash disposal facility is vegetated then downward drainage of leachate into the groundwater will be minimised.							high
	degree of impact on irreplaceable resources:	The impact on local groundwater is thought to be low, and the local groundwater resource could be replaced by other water resources if necessary.							medium
deterioration of groundwater quality due to other pollutants	**Nature of impact:**	If any other polluting substances were disposed onto the wet ash disposal facility (i.e. apart from the ash itself) this may lead to local							
	with	1	2	0	1	**3**	**Low**	-	medium
	without	2	4	8	2	**28**	**Low**	-	medium
	degree to which impact can be reversed:	The degree to which pollution from other sources can be reversed will depend on the pollutant (properties, volume, time over which disposed, etc). It will be much cheaper and easier to ensure that no other pollutants were disposed onto the wet ash disposal facility during the operational phase. Note that such disposal would be illegal,							high
	degree of impact on irreplaceable resources:	Certain types of pollutants (e.g. highly toxic, persistent pollutants) could impact on the local water resources, causing harm to the environment, ecosystems and even people. This risk can be almost entirely avoided if disposal onto the wet ash disposal facility was strictly controlled during the operational phase. Furthermore, this impact is							medium
Minor changes to local water table and local groundwater flow direction	**Nature of impact:**	Once decommissioned, the water table under the wet ash disposal facility should begin to decline again, since the volume of water							
	with	2	4	0	3	**18**	**Low**	-	medium
	without	2	4	2	3	**24**	**Low**	-	medium
	degree to which impact can be reversed:	The impact can be lessened by vegetating the wet ash disposal facility and preventing erosion etc, which will reduce movement of water /leachate downwards once ash depostion has ceased. The full impact would be difficult to reverse however, since this would most likely involve removing the rehabilitated wet ash disposal							high
	degree of impact on irreplaceable resources:	Very minor impact anticipated							medium

wet ash disposal facility - No-Go Alternative

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
No change to groundwater conditions at the site	**Nature of impact:**	If the wet ash disposal facility is not built, then it is likely that there will be no change to the groundwater conditions underlying the							
	with	2	4	4	4	**40**	**Medium**	+	medium
	without	2	4	4	4	**40**	**Medium**	+	medium
	degree to which impact can be reversed:	This positive impact (i.e. not building the wet ash disposal facility) could be reversed if some future activity affected the groundwater underlying the proposed site.							medium
	degree of impact on irreplaceable resources:	The groundwater resource at the proposed site is not considered to be irreplaceable, in the sense that alternative sources of water can be found if needed.							medium

Pipeline Route 1

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
No groundwater impact anticipated	**Nature of impact:**								
	with								
	without								
	degree to which impact can be reversed:								
	degree of impact on irreplaceable resources:								

Pipeline Route 2

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
No groundwater impact anticipated	**Nature of impact:**								
	with								
	without								
	degree to which impact can be reversed:								
	degree of impact on irreplaceable resources:								

Pipeline - No-Go Alternative

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
No groundwater impact anticipated	**Nature of impact:**								
	with								
	without								
	degree to which impact can be reversed:								

	degree of impact on irreplaceable resources:								

Transmission Line - Corridor 1

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
No groundwater impact anticipated	Nature of impact:								
	with								
	without								
	degree to which impact can be reversed:								
	degree of impact on irreplaceable resources:								

Transmission Line - Corridor 2

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
No groundwater impact anticipated	Nature of impact:								
	with								
	without								
	degree to which impact can be reversed:								
	degree of impact on irreplaceable resources:								

Transmission Line - No-Go Alternative

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
No groundwater impact anticipated	Nature of impact:								
	with								
	without								
	degree to which impact can be reversed:								
	degree of impact on irreplaceable resources:								

Hendrina Wet Ash Disposal Facility - EIA and Waste License Application

Groundwater specialist study

Significance Rating Table

Cumulative Impacts

wet ash disposal facility - Site E

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
Deterioration of groundwater quality due to ash leachate	**Nature of impact:**	The wet ash disposal facility is likely to lead to deterioration of local groundwater quality, which will be most severe during wet ash							
	with	2	4	2	4	**32**	**Medium**	-	medium
	without	2	4	4	4	**40**	**Medium**	-	medium
	degree to which impact can be reversed:	The impact can be lessened but not reversed completely by maintaining good practices during wet ash disposal facility construction and operation, and by revegetating and maintaining the wet ash disposal facility after closure.							medium
	degree of impact on irreplaceable resources:	The degree of impact on irreplaceable resources is thought to be low, since local groundwater resources are limited and are theoretically replaceable with alternatives.							medium
Deterioration of groundwater quality due to other sources of pollution	**Nature of impact:**	If other pollutants are disposed of at the wet ash disposal facility (e.g. inadvertently), and these pollutants are highly toxic or persistent,							
	with	1	2	2	1	**5**	**Low**	-	medium
	without	2	4	8	2	**28**	**Low**	-	medium
	degree to which impact can be reversed:	The degree to which pollution from other sources can be reversed will depend on the pollutant (properties, volume, time over which disposed, etc). It will be much cheaper and easier to ensure that no other pollutants were disposed onto the wet ash disposal facility during the operational phase. Note that such disposal would be illegal,							medium
	degree of impact on irreplaceable resources:	Certain types of pollutants (e.g. highly toxic, persistent pollutants) could impact on the local water resources, causing harm to the environment, ecosystems and even people. This risk can be almost entirely avoided if disposal onto the wet ash disposal facility was strictly controlled during the operational phase. Furthermore, this impact is							medium
Rise in local water table and minor changes to local groundwater flow directions	**Nature of impact:**	There is likely to be a residual rise in the water table underlying the wet ash disposal facility, even long after wet ash disposal facility							
	with	1	4	2	4	**28**	**Low**	-	medium
	without	2	4	2	4	**32**	**Medium**	-	medium
	degree to which impact can be reversed:	Unlikely that this impact can be reversed completely, but mitigation can be carried out (e.g. by vegetating and maintaining the wet ash disposal facility)							medium
	degree of impact on irreplaceable resources:	Minor							medium

wet ash disposal facility - No-Go Alternative

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
No change to groundwater conditions at site	**Nature of impact:**	If the wet ash disposal facility is not built, then it is likely that there will be no change to the groundwater conditions underlying the							
	with	2	4	4	4	**40**	**Medium**	+	medium
	without	2	4	4	4	**40**	**Medium**	+	medium
	degree to which impact can be reversed:	This positive impact (i.e. not building the wet ash disposal facility) could be reversed if some future activity affected the groundwater underlying the proposed site.							medium
	degree of impact on irreplaceable resources:	The groundwater resource at the proposed site is not considered to be irreplaceable, in the sense that alternative sources of water can be found if needed.							medium

Pipeline Route 1

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
Possible deterioration in local groundwater quality	**Nature of impact:**	It is possible that construction of the pipeline could lead to local deterioration in groundwater quality if pollutants of any sort are							
	with	2	2	2	1	**6**	**Low**	-	medium
	without	2	4	4	1	**10**	**Low**	-	medium
	degree to which impact can be reversed:	Once pollutants are put into the trench - e.g. during construction - reversing the impact would be fairly difficult - necessitating re-excavation of the trench, etc. If appropriate precautions are taken however, it is likely that the risk can be almost completely avoided.							medium
	degree of impact on irreplaceable resources:	The groundwater resource along the pipeline route is not considered to be irreplaceable, in the sense that alternative sources of water could be found if needed.							medium

Pipeline Route 2

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
Possible deterioration in local groundwater quality	**Nature of impact:**	It is possible that construction of the pipeline could lead to local deterioration in groundwater quality if pollutants of any sort are							
	with	2	2	2	1	**6**	**Low**	-	medium
	without	2	4	4	1	**10**	**Low**	-	medium
	degree to which impact can be reversed:	Once pollutants are put into the trench - e.g. during construction - reversing the impact would be fairly difficult - necessitating re-excavation of the trench, etc. If appropriate precautions are taken however, it is likely that the risk can be almost completely avoided.							medium
	degree of impact on irreplaceable resources:	The groundwater resource along the pipeline route is not considered to be irreplaceable, in the sense that alternative sources of water could be found if needed.							medium

Pipeline - No-Go Alternative

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
No groundwater impact anticipated	**Nature of impact:**								
	with								
	without								
	degree to which impact can be reversed:								

	degree of impact on irreplaceable resources:								

Transmission Line - Corridor 1

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
Possible deterioration in local groundwater quality	**Nature of impact:**	It is possible that construction of the power lines could lead to local deterioration in groundwater quality if pollutants of any sort are							
	with	2	2	2	1	**6**	**Low**	-	medium
	without	2	4	4	1	**10**	**Low**	-	medium
	degree to which impact can be reversed:	Once pollutants are introduced into the ground, reversing the impact would be fairly difficult - necessitating re-excavation, etc. If appropriate precautions are taken however, it is likely that the risk can be almost completely avoided.							medium
	degree of impact on irreplaceable resources:	The groundwater resource along the power line route is not considered to be irreplaceable, in the sense that alternative sources of water could be found if needed.							medium

Transmission Line - Corridor 2

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
Possible deterioration in local groundwater quality	**Nature of impact:**	It is possible that construction of the power lines could lead to local deterioration in groundwater quality if pollutants of any sort are							
	with	2	2	2	1	**6**	**Low**	-	medium
	without	2	4	4	1	**10**	**Low**	-	medium
	degree to which impact can be reversed:	Once pollutants are introduced into the ground, reversing the impact would be fairly difficult - necessitating re-excavation, etc. If appropriate precautions are taken however, it is likely that the risk can be almost completely avoided.							medium
	degree of impact on irreplaceable resources:	The groundwater resource along the power line route is not considered to be irreplaceable, in the sense that alternative sources of water could be found if needed.							medium

Transmission Line - No-Go Alternative

Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
No groundwater impact anticipated	**Nature of impact:**								
	with								
	without								
	degree to which impact can be reversed:								
	degree of impact on irreplaceable resources:								