

ULWAZI NGEPROJEKTHI

Isihloko: Inxelo ehlaziyiweyo ecetywayo yoHlolo lweMpembelelo yokusiNgqongileyo kwiSikhululo saMandla eNyukliya sakwaEskom kunye neZixhobo ezihambelana naso (i-Nuclear-1)

ULawulo lokusiNgqongileyo: ISebe leMicimbi yokuSingqongileyo (i-DEA)

Inombolo yokubhekiselela ye-DEA: 12/12/20/944

Umfaki-sicelo: I-Eskom Holdings Limited

Abacebisi bokusiNgqongileyo: U-Arcus GIBB (Pty) Ltd

Umhla: Matshi 2011

lingxelo zeAfrikaans neSingesi zolu Shwankathelo loPhumezo ziyafumaneka kwa-GIBB Public Participation Office (P.O. Box 3965, Cape Town, 8000; Umnxeba: 021 4699180 Ngeeyure zoMsebenzi: uMvulo ukuya kuLwesihlanu – 09h00 ukuya kwi-13h00 ngaphandle kweeholide zikawonkewonke; Ifeksi: 021 424 5571 ne-imeyile: nuclear1@gibb.co.za). Inxelo yeSingesi yolu xwebhu yiKopi yeSiseko.

ISISHWANKATHELO SEQUMRHU ELILAWULAYO

ISISHWANKATHELO

Isiphumo esingundoqo sale Ngxelo eHlaziyiweyo eYilwayo yeMpembelelo yokusiNgqongileyo sesokuba inconyiwe ukuba i-DEA iqwalasele ukugunyazisa isiza saseThyspunt ukwenzela iSikhululo saMandla seNyukliya sakwaEskom, nemiqathango.

U-Eskom Holdings Limited (u-Eskom) uceba ukwakha, ukusebenzisa nokuyekisa ukusebenza isikhululo esiqhelekileyo samandla enyukliye eMzantsi Afrika, ukuze akwazi ukumelana neemfuno ezipheleleyo zombane. UEskom uceba ulwakhiwo lwendlela yokuveliswa komthamo owongezelelweyo, ohambelana nenkqubo yokuqhubela phambili ukwaneliswa kwamandla ombane, nokuphuhlisa ngokutsha iindlela zokuvelisa umbane. UMzantsi Afrika kungokunje ujongene neemfuno ezandayo zombane ezigqitha kuma-43% ngonyaka. Ngokoqikelelo, kukho imfuneko entsha yamandla ombane angaphezulu kwama-40 000 Megawatts (MW), kwisithuba seminyaka engama-20 ezayo. Isicwangciso esiDityanelweyo seMithomo yaMacedo sowama-2010 esamkelweyo (Integrated Resource Plan 2010), esichaza amacebo obuchule karhulumente okumelana neemfuno ezikhulayo zamandla, sibonisa ukuzinikezela kukarhulumente kulwakhiwo lwamandla enyukliye angama-9 600 MW ngowama-2030. Injongo kaEskom kukwenza uphando malunga nokuba nokwenzeka kokunyunyuswa kokuveliswa kwamandla enyukliye afunwa nguMzantsi Afrika.

Iimfuneko zowiso-mthetho zezixhobo zenyukliye eMzantsi Afrika zininzi ngokugqithisileyo. Ngokubhekiselele kwisikhululo samandla enyukliye, kudingeka izigunyaziso ezibini ezivela kubalawuli abasemagunyeni abangaba, iSebe leMicimbi yokusiNgqongileyo (i-DEA¹), kunye noMlawuli weSizwe weNyukliye (i-NNR). Ezi zigunyaziso, nezinye eziliqela, ziyadingeka phambi kokuba kuqaliswe ngemisebenzi yokwakha.

Izigunyaziso zokusingqongileyo ngokubhekiselele kuMthetho weSizwe woLawulo lokusiNgqongileyo (i-NEMA, uMthetho onguNombolo. 107 ka-1998), kunye neZigunyaziso ze-EIA Regulations (2006) ziyafuneka phambi kokuba isikhululo esicetywayo samandla enyukliye sakhawe, njengoko ibandakanya le 'misebenzi idwelisiweyo' (o.k.u. imisebenzi enokuthi ibe nempembelelo enokuthi yonakalise okusingqongileyo), eyona iphambili:

- (1a) Kukusekwa kwezakhiwo nokusetyenziswa kwezixhobo, kubandakanya izakhiwo ezihambelana naso okanye izixhobo, ukuze kuveliswe umbane apho ukuveliswa kombane kungaphezulu kwama-20 Megawatts, ze isakhiwo sibe ngaphezulu kumgama oyihektare enye;
- (1b) Kunye nokwakhiwa kwezakhiwo okanye ukusetyenziswa kwezixhobo, kuquka izakhiwo ezibandakanyekayo okanye ukusetyenziswa kwezixhobo zenyukliye, kuquka ukuveliswa, ukukhuliswa, ukusetyenzwa, nokusetyenzwa ngokutsha kokugcinwa okanye ukulahlwa kwamafutha enyukliye, iimveliso zokuqhekeka kwee-athom kunye nenkunkuma.

U-Arcus GIBB (Pty) Ltd (Arcus GIBB) uthe watyunjwa nguEskom, njengomSebenzi woHlobo lokusiNgqongileyo (i-EAP), ukuba aqhube inkqubo yoHlobo lweMpembelelo yokusiNgqongileyo (i-EIA), ze aseke iSicwangciso soLawulo lokusiNgqongileyo (i-EMP), sesikhululo esicetywayo samandla enyukliye (esiza kubizwa ngokuba yi-Nuclear-1 emva koku), kunye nezakhiwo ezihambelana naso. Iqela leengcali lithe lancedisa kwi-EIA, laze laqulunqa iingxelo eziyimfuneko zobungcali.

¹ Ebelisakwaziwa njengeSebe leMicimbi yokusiNgqongileyo noKhenketho

INkqubo ye-EIA ye-Nuclear-1 iqulathe izigaba ezibini, isiGaba sokuVavanya nesiGaba sokuHlola. Kufakwe isicelo kwi-DEA ngoMeyi ka-2007, saze saguqulwa ngoJulayi ka-2008, sesikhululo esinye samandla enyukliye afikelela kuma-4 000 MW. Isigaba soVavanyo lwe-EIA sesiqukunjelwe. I-DEA, ifumene izimvo zoogunyaziwe abachaphazelekayo bezokusiNgqongileyo kwiPhondo yaye zaphumeza iNgxelo yoVavanyo ngoNovemba ka-2008.

Oku kuphumeza kwabandakanya isiphakamiso sokuba ezibini kwezintlanu zeesayithi ezichaseneyo zangaphambili zihlolwe ngethuba lesigaba soVavanyo, eziyiBrazil neSchulpfontein eMntla-Koloni, ze zikhutshwe ekubeni ziphinde zibe nokuqwalaselwa kwi-EIA. Ukukhutshwa kwezi sayithi bekusekelwe ngokubhekiselele kwimfuno elinganiselweyo yasekhaya, kunye nokungabikho kweendlela esele zikho zokuhambisa umbane ezihambelana nezi sayithi. I-DEA yaphumeza iSicwangciso sokuGqibela seSifundo se-EIA ngoJanuwari ka-2010.

Ngokusekelwe kwizimvo ezifunyenweyo ze-EIR eYilwayo ebinikwe uluntu negunyabantu ukwenza izimvo ngethuba lowama-2010, i-EIR eYilwayo ihlaziyiwe. Olu xwebhu yi-EIR eYilwayo eHlaziyiweyo yeNuclear-1. Lushicilela inkqubo ye-EIA ethe yaqhutywa ukuvavanya iimpembelelo ezinokuthi zibekho zokusingqongileyo zesikhululo samandla enyukliye, kuso nasiphi kwezithathu zeesayithi ezichasene naso ezizezi, i-Duynfontein neBantamsklip eNtshona Koloni neThyspunt eMpuma Koloni. Iquka iingxelo ezithile zeengcali ezihlaziyiweyo yaye yenza izindululo ngokubhekiselele ekumisweni nasekugunyazisweni nasekusekweni okukhuthazwayo kweesayithi ze-Nuclear-1, okusekelezwe kwiziphumo ze-EIA.

IMISEBENZI YEZIPHATHAMANDLA ZIKARHULUMENTE

I- National Nuclear Regulator (i-NNR) inikezwe igunya nguMthetho weSizwe woLawulo lweNyukliya (i-NNRA, uMthetho onguNombolo. 47 ka-1999) ukukhusela abantu, izakhiwo neempahla, kunye nokusingqongileyo ekonakalisweni yinyukliye ngokuthi iseke imigangatho yokhuseleko kunye nemisebenzi yolawulo. Ngokuhambelana neCandelo 21 le-NNRA, u-Eskom kulindeleke ukuba afake isicelo esisesikweni kwi-NNR sephepha-mvume lokufakelwa kwenyukliye ukwenzela iisayithi, ulwakhiwo, ukusetyenziswa, ukususa isidyobho sento enobungozi nokuyekisa ukusebenza kwesikhululo esicetywayo samandla enyukliye. I-NNRA yenza amalungiselelo eBhodi ye-NNR ukuba ibe nokuxoxwa luluntu. ngokuphathelene nemiba yezempilo, ukhuselo nokusingqongileyo ngokubhekiselele kwisicelo esisodwa.

NgokoMgaqo-Siseko weRiphabhliki yeloMzantsi Afrika (uMthetho onguNombolo. 108 ka-1996), kunye ne-NEMA, i-DEA inoxanduva lokuvavanya iimpembelelo zesikhululo samandla enyukliye kokusingqongileyo. Ekuqondeni iimfanelo ezimbolo-mbini nezohlukeneyo ngokuphathelene novavanyo lobungozi bokukhutshwa kwemitha, i-NNR neDEA zisayine isivumelwano sentsebenziswano. I-DEA, ne-NNR ziye zavumelana ukuba zisebenzisane ekuhloleni imiba ephathelene nenyukliye.

INKCAZELO YEPROJEKTHI

Ubuchule be-Pressurised Water Reactor (i-PWR), obusebenzisa amanzi njengesiphozisi, buthe bakhethwa ngu-Eskom ebukhethela i-Nuclear-1. Ii-PWR zikhulisa ukuba zizona ziphenduli zisetyenziswayo kwihlabathi jikelele. U-Eskom uqhelene nobu buchwepheshe buvela kwezempilo nokhuselo, kunye nemibono yentsebenziswano, emva kokubusebenzisa iminyaka engama-27 kwiSikhululo saMandla eNyukliya saseKoeberg (i-KNPS). Isikhululo samandla enyukliya esikuyilo olukuMgangatho wesi-III siyakhethwa nguEskom ngenxa yobulula bokusetyenziswa kunye noburhabaxa boyilo, ukufumaneka, nokuba nokwenzeka okuncitshisiweyo kweengozi zokunyibilikiswa, eyona mpembelelo incinane kokusingqongileyo, okona kusetyenziswa kuninzi kwamafutha kunye nokona kukhutshwa kuncinane kwenkunkuma.

Iingcaciso ezipheleleyo zesayithi ecetywayo yenyukliye azikabikho, njengoko kungekabikho mnikezeli ukhethiweyo.

Indlela esetyenzisiweyo kule nkqubo ye-EIA ibe kukubalula iimfuneko ezigubungelayo zezokusingqongileyo nezinye ezibandakanyekayo, ekufuneka uyilo nokwakhiwa kwesikhululo samandla ombane kwisayithi sizithobele. Kuqulunqwe indlela egubungelayo ukuqinisekisa ukuba zimele obona bunjani buthile bakudala obungqamene neminye imizimveliso eyohlukeneyo kubuchwepheshe be-PWR.

Indawo ethe yahlolwa kule EIA ilungiselela ukwanda kwexesha elizayo kwesikhululo samandla ombane, ukuvumela umthamo ophela we-10 000 MW, ukuba oku kuthe kwaba nokwenzeka ngokokusingqongileyo nangokobuchwepheshe. Kuqikelelwa ukuba ukusekwa okudingekayo kukonke ukuze kwakhiwe i-Nuclear-1 (4 000 MW) eziihektare ezingama- 200 ukuya kuma-280. Ukongeza kukusekwa kwesikhululo samandla enyukliya, kuza kuba kho amacandelo amabini ommandla wokuthinta, ngeenjongo zokucwangcisa iimeko zongxamiseko, kwindawo enezakhiwo yesikhululo samandla ombane. Iindawo zokuthinta ezamkelwe kwihlabathi jikelele zisaqwalaselwa ukulungiselela i-Nuclear-1. Kukho ulinganiselo kwindawo eziimitha ezingama-800 kuphuhliso lomhlaba oluya kuthi lunyanzeliswe. I-NNR iya kuthi ithabathe isigqibo sokugqibela ngokuphathelene nobukhulu bendawo yokuthinta, ngokwe-NNRA.

Uludwe lwezakhiwo kwisikhululo esicetywayo samandla ombane luya kubandakanya, *phakathi kwezinye*, iziphenduli namaholo ee-injini zomsinga, kunye nokugcinwa kwamafutha enyukliya, izixhobo zokujongana nenkunkuma, iindawo zokungenisa nokukhupha eziyimfuneko ukugcina/ukukhupha amanzi asetyenzisiweyo ukuze aphilise le nkqubo, umzimveliso wokususa ityuwa, imijelo yamandla phakathi kwesiza se-injini, iindlela, iyadi yamandla amakhulu ombane, kunye nasiphi na esinye isakhiwo senkonzo encedisayo. UMzimveliso we-iNjini yomsinga weRhasi oVulelekileyo (i-OCGT), uya kuthi usetyenziselwe ukuveliswa okungxamisekileyo kombane kwisayithi yaseThyspunt.

Kwimeko apho iprojekthi ecetywayo ithe yagunyaziswa, kucingeleka ukuba ulwakhiwo luya kuthatha malunga neminyaka esi-9. Iiyunithi zokuqala ziya kuqala ukuvelisa umbane wezorhwebo ngowama-2023 / 2024².

INKQUBO YE-EIA, INTATHO-NXAXHEBA YOLUNTU NOVAVANYO LWEMPEMBELELO

INKqubo ye-EIA eqhutywa ngokweMimiselo yowama-2006 ye-EIA, ibandakanya iNkqubo yeNtatho-nxaxheba yoLuntu (i-PPP) kunye nezifundo zobuchwepheshe, kwanemiba echongiweyo yaze yahlolwa.

INKqubo ecetywayo ithe yaziswa embindini ka-2007, xa kuqaliswa ngobhaliso lwabo baNomdla nabaChaphazelekayo (ii-I&AP), yaye luqhebekile kuyo yonke i-EIA. IiNtsuku ezininzi zokwazisa uLuntu ngokuBanzi, iiNtlanganiso zamaQela zokuGqalisela kuNdoqo kunye namaQela abaChaphazelekayo abaPhambili abanjwa ukwenzela ukuba ii-I&AP zikwazi ukuxoxa ngeziphumo zeNgxelo eYilwayo yokuKhangela ngokuPheleleyo (i-DSR) neqela le-EIA. Izimvo ze-I&AP zaye zadityaniswa kwiNgxelo yeMiba neMpendulo (i-IRR) kunye neNgxelo yokuGqibela yoVavanyo.

Iimpembelelo ezinokuthi zibe kho neziphathelene ne-Nuclear-1, zithe zachongwa kwiSigaba soVavanyo. Iiprojekthi ezohlukeneyo ezichasene nale icetywayo, zithe zabalulwa yaye zadluliselwa phambili ukuze ziqwalaselwe kwiSigaba se-EIA.

Imeko esisiseko kwisayithi nganye echaseneyo ithe yaphandwa ngamachule ezokusingqongileyo yaze yachazwa ngokubhekiselele ngokwemiba yezinto ezibambekayo, yebhayoloji neyasekuhlaleni. Ezinye iimpembelelo ezongezelelweyo zithe zachongwa ngophando loochwepheshe abohlukeneyo (uphando olwenziwe kwikhompyutha nolwenziwe ebantwini ngqo) nangenkqubo eqhubekayo yoonxibelelwano nee-I&AP. Oochwepheshe bathe bahlola ukubaluleka kweempembelelo

² Le mihla ingahluka kwimihla equkiweyo kwezinye izahluko ze-EIR. Nangona kunjalo iminyaka yama-2023 / 2024 ihambelana ne-IRP yama-2010 eyamkelwe kutshanje.

ezichongiweyo nezinokuthi zibe kho, baze benza isindululo esifanelekileyo sokuthomalalisa apho kukho imfuneko. Ngethuba leSigaba se-EIA, uluntu nalo luye lwanikezela ngolwazi olubalulekileyo nolungqamene nalo, kunye nolunye ulwazi kwi-EIA, kunye nesiqinisekiso esinisekisiweyo sokuba le miba itha yaqwalaselwa kuphando lokusingqongileyo. Iziphumo zophando loochwepheshe ziye zadityaniswa zaze zahlolwa kule EIR icetywayo.

Elinye ilungu eliphambili leSigaba se-EIA luhlolo loluntu ngokutsha lweziphumo, ezithe zanikezelwa kule-EIR ecetywayo eHlaziyiweyo. Zonke ii-I&AP ezibhalisiweyo zither zaziswa malunga nobukho beNgxelo nobeeNtlanganiso zoLuntu ezicetywayo. Iindibano zokubonisana eziBalulekileyo zaBathathi-nxaxheba ziye zabanjwa eNtshona Koloni naseMpuma Koloni. Ubukho be-EIR ecetywayo eHlaziyiweyo kunye namalungiselelo eeNtlanganiso zoLuntu zithe zapapashwa ngokuthengiswa kumaphephandaba.

I-EIR eYilwayo eHlaziyiweyo neengxelo ehamba nazo iya kulungiswa, apho kufanelekileyo, ukulandela izimvo ezifunyenweyo ezivela kwii-I&AP ngexesha lophengululo. Iingxelo emva koko ziya kuthunyelwa kwi-DEA ngenjongo yokuqwalaselwa nokuthathwa kwesigqibo.

IZIPHUMO EZIBALULEKILEYO KWIINGUQU

Iinguqu ezibalulekileyo kule-EIR eYilwayo eHlaziyiweyo ukusuka kupapasho lwe-EIR eYilwayo yokufumana izimvo ngowama-2010 zezi:

- Ukuyekwa kwezicwangciso zoMboniso woMatshini waMandla we-Pebble Bed Modular Reactor (PBMR) e-KNPS. Ngako oko i-EIR eYilwayo eHlaziyiweyo ayiqulathanga ukuxelwa kwezicwangciso ze-PBMR;
- Ukugqitywa kophononongo lokongamele amanzi omhlaba olwenziwe ngowama-2010 kuzo zonke iziza ezithathu ngokutshintshanayo. Iziphumo zolu phononongo zinikela ngeqondo eliphakemeyo lokuthembeka koHlolo lokuHamba kwaManzi oMhlaba (i-Geohydrological Assessment). Kananjalo lubonelela ngentembeke ephucukileyo yokuba amanyathelo okuthomalalisa okutsaleleka ezantsi kwamanzi omhlaba aya kusebenza ngempumelelo ekuthinteleni iimpembelelo kwimigxobhozo enovakalelo efana ne-Langefonteinvlei kwisiza sase-Thyspunt;
- Ukugqitywa kohlolo lokumpompoza kokungcola, unyibilikiso nokuzala kwamanzi kwiNdlela u-R330 kwisiza sase-Thyspunt. Olu luqinisekisa ukuba abukho ubungqina bokumpompoza kokungcola kwisiza okanye ubukho beemeko zokumpompoza kokungcola. Kananjalo luqinisekisa ukuba ayikho ingozi yomonakalo kwi-Nuclear-1 okanye kwiindlela zokungena nengozi encinci yokunyibilika kweentlabathi (okanye imigxobhozo yentlabathi ebizelayo), ngokuxhomekeke ekubeni kusetyenziswa iinkqubo zobunjinieli ezisesikweni zeendlela nezakhiwo ezihambelana nazo;
- Ukugqitywa kohlolo lwegcali lwenkunkuma oluquka ngokubanzi, iinkunkuma ezinobungozi neziqulethe ukusasazeka kwemitha. Uhlolo lugqibe kwelokuba kukho ulwazi olwaneleyo lokulahla zonke iintlobo zenkunkuma eziveliswa yi-Nuclear-1 kuzo naziphi iziza ezitshintshanayo kwanokuthi iimpembelelo ezinokuba kho zezi ntlobo zenkunkuma ziya kuba ncinci, ngokuxhomekeke ekubeni ulawulo olungqongqo lokuphathwa kwenkunkuma luyasetyenziswa, ngokweemfuno zomthetho.
- I-Heritage Impact Assessment (i-HIA) (uHlolo lweMpembelelo yezaMafa oBuzwe) lufumene ukuba isiza sase-Thyspunt sithathwa “njengeMbonakalo-mhlaba yeMveli” njengoko ichazwa yi-United Nations Educational, Scientific and Cultural Organisation (UNESCO) World Heritage Convention. Ngaphezu koko i-HIA ibonisa ukuba kukho ukungaqiniseki malunga nemo yeempembelelo kwimithombo yoncedo yamafa obuzwe kummandla osembindini wesiza. Ngokuphathelele koku kwenziwa isicelo kwi-Heritage Resource Agency (SAHRA) yemvume yovavanyo ngokugrumba kwesi siza kodwa kusamisiwe. Imvume enjalo iyafuneka ukuze kuqinisekise iimpembelelo zamafa obuzwe;
- Ukuqwalasela iindawo ezimbini ezitshintshanayo zokulahla amanzi okupholisa e-Thyspunt: kufuphi nonxweme nakude nonxweme. Uhlolo lugqibe kwelokuba indawo yokulahla ekufuphi nonxweme yamkelekile e-Thyspunt ngembono yeziphili zaselwandle (umz. i-chokka squid). Uhlolo olongezelelweyo lwe-chokka squid luqinisekise ukuba iimpembelelo zokulahla

- kwentlenga elwandle, namanzi okupholisa afudumeleyo akunakuba neziphumo ezibalulekileyo kwi-chokka squid okanye ekulobeni iintlanzi.
- Ukulahla izinto ezingafunwayo kumaza amakhulu ngaselunxwemeni e-Thyspunt. Uhlolo lugqibe kwelokuba, kuya kwenzeka iimpembelelo ezincinci ukuba nje ubunzulu bolwandle obukhuthazwayo buyasetyenziswa kwisiza sokulahla. Xeshikweni ukwanda kwentlenga e-Seal Point kungachaphazela indlela amaza abetha phantsi ngayo, akukho ukwanda kwentlenga engqindilili okunokwenzeka e-St. Francis Bay, e-Bruce's Beauties nase-Jeffrey's Bay. Imeko yamaza angaselunxwemeni kwezi ndawo ngako oko ayinakuchaphazeleka.
 - Inguqu kuthutho lwemithwalo enzima kwisiza sase-Thyspunt yeyokuba indlela yokungena yezithuthi ezinzima ukujikela e-Humansdorp ichongiwe. Ngenxa yeso sizathu izithuthi zokwakha ezinzima ezingena kwisiza sase-Thyspunt akunakufuneka zicande kumbindi we-Humansdorp.

UHQLOLO LWEZINYE IINDLELA ZEPROJEKTHI

Ukuqwalaselwa kweprojekthi ezizezinye yiyona mfuneko iphambili ye-EIA, njengoko zinikezela ngesiseko sokukhethwa kwabalawuli belo candelo nee-I&AP. Iiprojekthi ezizezinye eziqwalaselwayo kufuneka zibe zezizizo yaye zibe nokwenzeka. Ezi projekthi zizezinye eziqwalaselwa ngethuba le-EIA ziquka ezi zilandelayo:

- Indawo yesikhululo samandla ombane;
- Iindidi zokuveliswa kombane;
- Iindidi zemizimveliso yenyukliya;
- Isiseko somzimveliso wenyukliya;
- Ukuhanjiswa kwamanzi afreshi nokusetyenziswa kwamanzi atsalwe emhlabeni;
- Ukulawulwa kwamanzi anetyuwa;
- Ukungeniswa kwamanzi aselwandle;
- Ukukhutshwa kwamanzi kunye nokungcola kweekhemikhali;
- Ukulawulwa kwezinto ezonakeleyo;
- Ukufikelela kwiisayithi;
- Ukuhanjiswa kwenkunkuma; kunye
- Nezinye iindawo ezingenaluphuhliso (o.k.u. 'Akuhanjwa').

Uhlolo lwezinye iiprojekthi lusekelezwe kwintlanganisela yeendidi zohlolo ezishicilelwe ziingcali, iziphumo zeqweba zohlanganyelo lweengcali ebelibanjwe ngoNovemba ka-2009, kunye nohlanganyelo lukaArcus GIBB nohlolo lweziphumo zophando, kuquka neengxelo zengcali zezihlaziyo ekupheleni kowama-2010 nasekuqaleni kowama-2011.

INDAWO YESIKHULULO SAMANDLA ENYUKLIYA

Iiprojekthi ezintathu ezizezinye ezithe zahlolwa kwi-EIA zezi:

- I-Duynfontein, ejongene ngqo ne-KNPS ikwasemantla kuNxweme lweNtshona yeKapa, malunga nama-35 eekhilomitha kumantla eKapa. Le sayithi iphantsi kwendawo esele ikho kaEskom, equka imimandla yolondolozo lwendalo.
- I-Bantamsklip, ekummandla woNxweme olukuMzantsi Kapa, kumbindi ophakathi kweDanger and Quoin Points. Le sayithi iyinxalanye yesakhiwo esipheleleyo saseBantamsklip esiyipropati kaEskom, yaye isetyenziselwa ikakhulu ukuvunwa kweentyatyambo, ukuloba iintlanzi
- I-Thyspunt, ekummandla okunxweme olukumaZantsi eKapa, phakathi kwe-Oyster Bay neSt. Francis Bay. Isayithi ye-Nuclear-1 esacetywayo kungokunje yipropati kaEskom, kodwa kukho izindlu ezininzi ezikwiziza ezijongene nayo, ngaphandle kwesikhululo esicetywayo samandla enyukliya. Iindawo zokuCwangcisa zeNgxakeko (ii-EPZ.).

Uhlolo lokuthelekisa lweziza ezitshintshanayo ezintathu belusekwe kule miba:

- Izifundo zengcali: iingcali zibonise ukubaluleka okuhambelanayo kweempembelelo ezinokuba kho nokuthomalalisa kwesinye nesinye seziza ezintathu ezitshintshanayo;
- Indibano yokubonisana yomanyano (ngoNovemba 2009), ebandakanya zonke iingcali, apho iimpembelelo ezinokuba kho nokubeka iziza ngokweendidi bekuxoxwa ngazo;
- lindleko; kwakunye
- Neemfuno zobuchwepheshe (umz., umanyano lothumelo, ukufaneleka kwe-seismic /kwentshukumo yenyikima).

Iimpembelelo ezingama-259 ziye zahlelwa ngokweendidi zaze zadityaniswa zahluzwa ukubonelela ngezona mpembelelo zibalulekileyo ezili-16 ukulungiselela ukuthatha isigqibo. Oku kubandakanye ukususa iimpembelelo ezinokubaluleka okuphantsi, iimpembelelo zokubaluleka okulinganayo kuzo zonke iziza kwakunye nezo zingafumanekiyo kuzo zonke iziza.

Uhlalutyo lweempembelelo lubonise ukuba i-Duynfontein inokuba sisiza esithandwayo. Nangona kunjalo bekufuneka ukucinga ngokubaluleka okuhambelana nempembelelo nganye yeendidi phakathi kweziza naphakathi kwesiza. Ukufikelela oku uthelekiso olulinganiswa ngamanani lweziza ezitshintshanayo lwenziwe ukuzama ukuchonga esona siza silungele i-Nuclear-1. Imiba yezobuchwepheshe neyokusingqongileyo, iqwalaselwe kolu thelekiso. Imiba elithoba elandelayo yokuthatha isigqibo isetyenzisiwe kulo msebenzi wokulinganisa ngokweendidi:

- Umanyano lothumelo;
- Ukufaneleka kwe-seismic/ kwentshukumo yenyikima kwiziza;
- Iimpembelelo kwimbonakalo yomhlaba weendunduma;
- Iimpembelelo kwimigxobhozo;
- Iinzuzo ezinokuba kho zolondolozo;
- Iimpembelelo kwimithombo yoncedo yamafa obuzwe;
- Iimpembelelo zoqoqosho;
- Iimpembelelo kwizilwanyana ezingenawo umqolo; kunye
- Neempembelelo kwizilwanyana ezinomqolo.

Uthelekiso olulinganisiweyo lweziza ezitshintshanayo, olwenziwe ngokwemiba exeliweyo ngentla yezokusingqongileyo neyobuchwepheshe, nokulinganiswa kwayo, inike iziphumo zamanqaku alandelayo ngokuphathelele kwiziza ezitshintshanayo:

- I-Duynfontein: -8
- I-Bantamsklip: -8
- I-Thyspunt: +5

Esi siphumo sibonisa inqaku eliphezulu le-Thyspunt, ilandelwe yi-Bantamsklip ne-Duynfontein. Oku kucebisa ukuba i-Thyspunt sisiza esithandwayo ngokwembono yezokusingqongileyo nobuchwepheshe. Iisigqibo esingentla sivavanyiwe kananjalo ngokusebenzisa uthelekiso olungelulo olwamanani kwiziza ezitshintshanayo yaye isigqibo ngokuphathelele kwiziza esithandwayo asiguquki siyafana.

I-Thyspunt inovakalelo olungaphezulu ngokwembono yezinto eziphilayo namafa obuzwe kune-Duynfontein okanye i-Bantamsklip, ikakhulu ngenxa yobulunga nenani leendawo zamafa obuzwe e-Thyspunt nokuxabiseka kwayo njengeMbonakalo-mhlaba yeMveli. Nangona kunjalo, ayikho imicimbi enokusenza singafaneleki isiza sase-Thyspunt ukuba siqwalaselelwe ukusekwa kwesikhululo samandla enyukliya. Oku kuxhomekeke ekuqinisekiseni ukuba iziza zezinto zakudala embadini wendawo yobukho besikhululo samandla azikho ninzi okanye azinakubaluleka okufanayo neziza zezinto zakudala kwiziza ezingaselunxwemeni.

limahluko enxulumeneyo phakathi kweziza ezitshintshanayo (ngenxa yesiphumo sothelekiso lwamanani nolungelulo lwamanani) ziphatheka ngokwaneleyo ukukhetha i-Thyspunt ngaphezulu kwe-Bantamsklip okanye i-Duynfontein.

IZIGQIBO NEENKUTHAZO

Indawo yesikhululo samandla

I-EIA ichonge i-Thyspunt njengesiza esithandwayo. Kukhuthazwa ukuba esi siza siqwalaselelwe ugunyaziso yi-DEA, ngokulawulwa kukuqinisekiswa nokusombululwa kwemicimbi eshiyekeleyo yamafa obuzwe, kwakunye nemiqathango namanyathelo okuthomalalisa achongwe kwi-EIR eYilwayo eHlaziyiweyo.

Iindlela zokuvelisa amandla

Ngokuphathelele kwezobuchwepheshe bokuvelisa amandla, uveliso lwamandla enyukliya nolubaselwa ngamalahle zizo kuphela iindlela zobuchwepheshe ezingqiniweyo zomthwalo wesiseko. Kuyakhetheka ukwakha izikhululo zamandla ezibaselwa ngamalahle kufuphi nomthombo woncedo ngenjongo yobuchule nezizathu zeendleko. Umjikelo wobomi wamagalelo okuvelisa umbane ngenyukliya ngokubhekiselele kwigesi ekhutshwayo ngokuphathelele kulondolozo lobuluhlaza bendalo nococeko lomoya (greenhouse) zincinci xa zithelekiswa nokuvelisa umbane ngomlilo wamalahle. Oku kubonisa ukuba ukuvelisa umbane ngenyukliya yinxalenye efunekayo yobuchule yoMzantsi Afrika yokuvelisa umbane ongezelelweyo ngama-40 000 MW ngonyaka wama-2025. Imithombo yamandla evuselelekayo efana namandla aveliswa kwilanga nomoya akavelisi umthwalo wesiseko oqinisekisiweyo womthamo ofunekayo. Nangona kunjalo, oku akubekeli bucala uphuhliso lobuchwepheshe bamandla avuselelekayo, okufuneka lwenzeke ngokunxuseneyo nokuveliswa kwamandla ngenyukliya.

Iintlobo zee-injini zenyukliya

Ii-Pressurised Water Reactor (iziXhobo zokwenza aMandla ngee-atom ngaManzi aXinzelelweyo) ngokwezizwe zezona reactor zenyukliya zisetyenziswa ngokuxhaphakileyo. I-KNPS isebenzisa ubuchwepheshe be-Pressurised Water Reactor yaye ngako oko luhlobo oluvavanyiweyo lokuvelisa amandla olusebenze ngokhuseleko iminyaka engama-27 egqithileyo. UEskom ubuqhelile obu buchwepheshe ngokwembono yezempilo nokhuseleko, nangokwemeko yokusebenza.

Iindlela zothutho

Uthutho ngomgaqo lwamkelwe njengesisombululo esisodwa sokuthutha imithwalo enzima ukusuka emazubukweni ukuya e-Duynfontein nase-Thyspunt. Nangona kunjalo, e-Bantamsklip, ngenxa yeempuculo ezininzi zezixhobo zokusebenza eziya kufuneka kuthutho lwezixhobo ezinzima ukusuka kwizibuko laseKapa, uthutho ngesikhephe esinesinqe esibanzi (i-barge) ukusuka kwizibuko laseKapa kucetyiswe ngaso njengenye indlela yothutho ngaphandle kweyomgaqo.

Ngokwembono yezokusingqongileyo, le ndlela eyenye ithathwa ingamkelekanga, ngenxa yeempembelelo ezibalulekileyo ezilindelweyo ezinokuba kho xa kusakhiwa amalungiselelo okumisa isikhephe (i-barge). Nangona lungekho uhlobo olukhethekileyo olwenziweyo lweendawo zokumisa ezinokufuneka, iinkqubo zohlolo zezilwanyana ezinomqolo namafa obuzwe zozibini ziphawule ummandla oselunxwemene kufuphi nesiza sase-Bantamsklip unovakalelo oluphezulu lokuphazamiseka. Nangona kunjalo, ulwakhiwo lolungiselelo lokumisa isikhephe lungafuna inkqubo ehlukeneyo ye-EIA.

Ukuhambisa ngesikhephe imithwalo enzima ngokungaqhelekanga ukuya e-Bantamsklip ngako oko akwamkelwanga njengenye indlela kule-EIA.

Iindawo zesikhululo samandla enyukliya kwiziza

Izimo ezitshayelelayo zeziza 'ezirhangqe' indawo yokumisa isikhululo samandla beziphuhlise nguEskom esenzela isiza ngasinye esitshintshanayo. Ezi zimo bezinikwe iingcali yaye emva koko zalungiswa ukujongana nemicimbi ethile neenkxalabo ezivezwe ziingcali. Iimaphu zeengcali zovakalelo zidityanisiwe kwaze kwaveliswa iimaphu ezimanyeneyo zovakalelo ukubonisa ezona ndawo zifaneleke kakhulu ngokokusingqongileyo ukuba kumiswe isikhululo samandla enyukliya

esicetywayo. Ukugqibezela izimo zesiza, ukuba isikhululo samandla sigunyazisiwe, kuya kufuna uphando olunzulu, ngokusebenzisana neengcali ezifunde ngokufanelekileyo nezinamava, sakuba isiza esithandwayo nohlobo lwe-injini yamandla iqinisekisiwe.

Ngokusekelwe kubukhulu bemimandla efanelekileyo ngokokusingqongileyo ukumisa isikhululo samandla enyukliya kwiziza ezitshintshanayo (phakathi kwe-172 ha nama-293 ha), kunye nobukhulu obucetywayo bokumisa i-Nuclear-1 (ama-200 ukuya kuma-280 ha), akunakwenzeka ukwakha izikhululo ezongezelelweyo, ngaphezulu kwe-Nuclear-1, nakwesiphi seziza ezitshintshanayo.

Nangona kukho izincomo ezibanzi ezixeliweyo ngentla malunga nenani lezikhululo zamandla ezinokwakhiwa kwisiza ngasinye, kufuneka kugxininise ukuba isicelo sangoku sesesikhululo samandla enyukliya esinye sobukhulu bama-4 000 MW. Iimpembelelo ezongezelekayo zezikhululo zamandla enyukliya naziphi ezongezwayo kwiziza esikhethekileyo (ukuba sigunyazisiwe) kungafuneka siqinisekise kwinkqubo entsha ye-EIA phambi kophuhliso naluphi olongezelelweyo.

Ukusebenzisa amanzi omhlaba atsaliweyo

Amanzi omhlaba aya kutsalwa ukusuka kwimingxuma enzulu kwiziza zonke ezintathu ngenjongo yokuvumela ukwakhiwa kweSiqithi seNyukliya. Enye indlela enokukhethwa yokutsala amanzi omhlaba kukugcina nokusebenzisa amanzi kwisiza. Nangona kunjalo, umthamo wamanzi anokukhutshwa, ngokukodwa e-Thyspunt, kungafuneka amanye amanzi echithelwe elwandle. Ukugqithisela amanzi kwinkqubo yobonelelo ngamanzi kamasipala kuthathwa njengento engenakho ukwenzeka nakwesiphi seziza ezitshintshanayo, ngenxa yomgama ukusuka kweyona ndawo ikufuphi elungiselelwe iinkonzo zedolophu. Ngako oko, indibaniso yokugcina nokuchithela elwandle iyakhuthazwa.

Ubonelelo ngamanzi amatsha

Kuzo zonke iziza ukususwa kwetyuwa emanzini kuqinisekisa umthombo wobonelelo ngamanzi amatsha ukuqhuba lonke ixesha lobomi besikhululo samandla enyukliya ngaphandle koku phazamisa ukufumaneka kwamanzi amatsha kwabanye abasebenzisi. I-injini yokususa ityuwa emanzini ngako oko yenye indlela ekhethwayo yokubonelela ngamanzi amatsha kuzo zonke iziza ezitshintshanayo.

Ukuphathwa kwamanzi anetyuwa

Nayiphi indlela yokulahla amanzi anetyuwa elwandle okanye ukulahla amanzi anetyuwa kwakunye namanzi okupholisa elwandle yamkelekile ngokokusingqongileyo. Ukulahla amanzi anetyuwa elwandle kufuneka kusetyenziswe kuphela ngexesha lokwakha, yaye kufuneka amanzi anetyuwa angadityaniswa namanzi okupholisa akhutshelwa elwandle ngexesha lesigaba sokusebenza.

Ukungenisa amanzi aselwandle

Ukufakwa kweetonela zokungenisa nokukhupha amanzi okuquka ukufakwa kwemibhobho yangaphantsi kolwandle, efumana amanzi kulwandlekazi nokubonelela ngamanzi okupholisa kwindawo yokuwagcina (isidibi sokuwamkela) ebekwe kufuphi nezindlu zempompo yamanzi okupholisa yiyo kuphela indlela enokusetyenziswa kuzo zonke iziza ezitshintshanayo.

Indlela yokuphuma kwamanzi neekhemikhali ezimdaka

Izakhiwo zokukhupha amanzi okupholisa neekhemikhali ezimdaka kufuneka zenziwe kude nonxweme. Zonke izinto ezikhutshwayo kufuneka zenzeke kwimigama efanelekileyo njengoko kuchaziwe ziingcali ezichanekileyo. Ngokuxhomekeke ekubeni amanyathelo akhethekileyo okuthomalalisa achongiweyo kwingxelo yebhayoloji yolwandle ayalandelwa, ukulahlwa kwamanzi amdaka kude nonxweme ngako oko yenye indlela ekhuthazwayo.

Ukuphathwa kwezinto ezingafunwayo

Ngokusekelwe kwiziphumo zomzekelo wezifundo ngamalwandlekazi nohlolo lovakalelo lolwandle, kukhuthazwa ukuba izinto ezingafunwayo ezicolekileyo zilahlwe kwimekobume yolwandle. Ezishiyekileyo, ezingenakho ukupompelwa elwandle, kufuneka zilahlwe emhlabeni yaye zisetyenziselwe imisebenzi efana nokugudisa iyadi ye-HV, ukunciphisa ubukho bazo. Kufuneka kusetyenziswe umyili wezakhiwo wembonakalo-mhlaba ukunceda kuyilo olufanelekileyo lwendawo zokulahla inkunkuma yezinto ezingafunwayo ngenjongo yokunciphisa impembelelo yembonakalo.

Indlela eyodwa enokwenzeka nenokwamkelwa yokulahla inkunkuma yokusasazeka kwemitha yoMphakamo oPhantsi noMphakamo oPhakathi kukulahlwa kwiSiza sokuLahla Inkunkuma yeNyukliya e-Vaalputs. Yiyo kuphela indawo yoncedo olugunyazisiweyo lokulahla inkunkuma yolu hlobo eMzantsi Afrika yaye inomthamo owaneleyo wenkunkuma eya kuveliswa yi-Nuclear-1.

Ngokuphathelele kwiNkunkuma yoMphakamo oPhezulu (izibaso ezisetyenzisiweyo), indlela eyodwa efumanekayo okwangoku eMzantsi Afrika yeyogcino lwexesha elide lwezibaso ezisetyenzisiweyo kwisikhululo samandla senyukliya. I-Vaalputs iyaqwalaselwa njengesiza sokulahla iNkunkuma yoMphakamo oPhezulu, kodwa iinkqubo zogunyaziso olufunekayo zolu ncedo ziya kuthatha iminyaka eliqela, ngako oko okwangoku ukulahlwa kwezibaso ezisetyenzisiweyo kule ndawo yoncedo lukhetho olungenakwenzeka.

Enye indlela yokuThintela ukuHamba

Njengoko kukho imfuno engxamisekileyo yamandla ngokusekelwe kuhlumo loqoqosho eMzantsi Afrika, enye indlela yokuThintela ukuHamba ayicingwa iyenye indlela enengqiqo, njengegunya likaEskom lokubonelela ilizwe ngamandla. UESkom, ngandlela zonke ezilindelekileyo, uya kufaka isicelo sokuphuhlisa izikhululo zamandla ezongezelelweyo ezibaselwa ngamalahle ukuba isicelo sangoku siyalandulwa. Iimpembelelo kokusingqongileyo zomjikelo wobomi bokuveliswa kwamandla ngokubaselwa ngamalahle zinkulu kakhulu kunemveliso ebaselwa yinyukliya. Kunokuba nzima nangakumbi ukuphuhlisa izikhululo zamandla ezibaselwa ngamalahle kwixesha elizayo, ngenxa yerhafu yekhaboni eya kuhlawuliswa amazwe aqhubekayo ukukhupha iigesi ezitshabalalisa ulondolozo lobuluhlaza bendalo nococeko lomoya (i-greenhouse). Enye indlela yokuThintela ukuHamba ingathetha ukuba iinzuzo ezinokuba kho ezivela kwiprojekthi ecetywayo azinakufikelelwa. Ngokuphathelele koku, kubalulekile ukulungelelanisa inzuzo, iintswelo neembono zamazwe angabamelwane nomdla wesizwe wothungelwano lombane olukhuselekileyo olulungiselela uphuhliso oluzinzileyo lwexesha elide loqoqosho loMzantsi Afrika. Nangona iimpembelelo ezingalunganga ezinokwenzeka zeprojekthi ecetywayo zinokuphetshwa ngendlela yokuThintela ukuHamba, kunyanzelekile ukuba uMzantsi Afrika uphuhlise umthamo wawo wokuvelisa amandla, ngokukodwa eNtshona naseMpuma Koloni.

Amanyathelo abalulekileyo okuthomalalisa nemiqathango yogunyaziso

Iziphumo zezifundo zobungcali ezenziwe phakathi kwale-EIA zinikela ngohlolo lwazo zombini iimpembelelo ezilungileyo nezingalunganga ezinokwenzeka ezilindelweyo ngenxa yeprojekthi ecetywayo. Iziphumo zigqiba kwelokuba azikho iziphene ezibulalayo zokusingqongileyo ezinokuthintela iprojekthi ecetywayo ekuqhubekeni nakwesiphi seziza ezitshintshanayo, ngokuxhomekeke ekubeni amanyathelo akhuthazwayo okuthomalalisa nokulawula ayaphunyezwa.

Kunyanzelekile ukuba izincomo zokuthomalalisa eziqulathwe kule-EIR, i-Environmental Management Plan (i-EMP) (isiCwangciso soLawulo lokuSingqongileyo) nezifundo zobungcali ziphunyezwe ngokusingqongqo. Amanyathelo okuthomalalisa eempembelelo zebhothani, zezilwanyana ezinomqolo nezingenawo umqolo, imigxobhozo, ukwakheka komhlaba weendunduma nemithombo yoncedo yamafa obuzwe abaluleke ngokukodwa. Ukuthomalalisa iimpembelelo zamafa obuzwe kuya kufuna ngokukodwa umsebenzi weqela elikhethekileyo lesiza elizinikele kukugrumba kwithuba lexesha leenyanga ezintandathu ukuya kunyaka phambi kokuqalisa kokwakhiwa. Kananjalo kuya kubaluleka ukubandakanye iingcali ezifundileyo nezinamava zebhothani, zezilwanyana ezinomqolo nezingenawo umqolo, ukwakheka komhlaba weendunduma nezamafa obuzwe ukulungisa ngocoselelo indawo yesikhululo samandla kwisiza.

Ukuze kufikelelwe kwimigangatho yolawulo lokusingqongileyo efanelekileyo nokuqinisekisa ukuba iziphumo zezifundo zokusingqongileyo ziyaphunyezwa ngamanyathelo apathekayo, izincomo (eziquka izincomo zengcali yobuchwepheshe) ezivela kule EIA ziqukiwe phakathi kwe-EMP (ukuthobela ummiselo we-NEMA Regulation 34) oqukiweyo kwiSihlomelo F. Kufuneka le EMP ibe yinxalenye yekontraki noosokontraki abalathelwe ukwakha isikhululo samandla enyukliya esicetywayo nezakhiwo ezayamane naso. Kufuneka i-EMP isetyenziswe ukuqinisekisa ukuthobela imiyalelo yokusingqongileyo namanyathelo olawulo ngamaxesha azo zonke izigaba zeprojekthi. Kuyimfuneko ukuphumeza le EMP yazo zonke izigaba zomjikelo wobomi (oko kukuthi, ukwakha, ukusebeza nokuphelisa ugunyaziso).

I-EMP luxwebhu olushukumisayo yaye njengoko ulwazi olutsha lufumaneka ekuhambeni kwexesha, okanye njengoko izifundo zifundwa ekuphumezeni izincomo ze-EMP, kufuneka i-EMP ihlaziye ekuhambeni kwexesha.

ISISHWANKATHELO SEZIPHUMO ZEENGALI

Iimpembelelo ezinokuthi zibe kho zokusingqongileyo kwiisayithi ezintathu ezichaseneyo zithe zahlolwa ziingcali zobuchwepheshe³, ze kwanikezelwa ngesi sishwankathelo seziphumo silapha ngezantsi

Ukufaneleka kobuchwepheshe bezomhlaba

Iimpembelelo ezinokuba kho ezinxulumene nokuzinza kwethambeka elinokuveza iingozi zokhuseleko ngaphandle kwamanyathelo okuthomalalisa zinokubaluleka neziphumo ezincinci kuzo zonke iziza ezitshintshanayo, njengoko ubuchule bokuyila ukuzinza kwethambeka buya kusetyenziswa ukujongana nale micimbi. Oku ngokungamandla kuya kubandakanya ukuyilwa kweembombo ezithe tyaba zethambeka, eziya kufuna imithamo emikhulu yokomba nemfuneko yokulahla imithamo emikhulu yezinto ezingafunwayo. Iimpembelelo ezayamene noku (ngaphandle kokuthomalalisa) nangona kunjalo zibaluleke kancinci kuzo zonke iziza ezintathu ezitshintshanayo. Ngokusebenzisa ukuthomalalisa, okufuna kubandakanywe ukufumana iindawo ekufuneka zombiwe kufuphi nolwandle e-Bantamsklip nase-Thyspunt, ukubaluleka okuyamaniswa neempembelelo kuhlala kuphantsi kuzo zonke iziza.

Ingozi yenyikima

Ukukhululeka kocinzeleko loqweqwe lomhlaba kudala intshukumo ecaleni kweziphene zomphezulu okanye kubunzulu obudala iinyikima. Iziganeko zokudubula koxinzelelo lomoya oludalwe yinyikima neenyikima ezincinci emva kwenyikima enkulu (Seismic shockwaves and aftershocks) zithunyelwa ngezantya nobuninzi obuxhomekeke kwidwala ezihamba kulo. Ngokubanzi kwamkelekile ngokwezizwe ukuba i-injini esemgangathweni inganyamezela umlinganiselo wenyikima ngokulandelelana kwe-0.3 g Peak Ground Acceleration (PGA) yemaleko yangaphakathi yeziza ezifana nezoMzantsi Afrika. Awukho umda ophezulu ophathekayo woyilo lwenyikima wezikhululo zamandla zenyukliya, kodwa ukwandisa imiyalelo yomlinganiselo wenyikima ngaphezulu kwe-0.3 g kwandisa iindleko nexesha lokuyila isikhululo samandla.

Azikhho izilanduli zenyikima ezifunyenweyo nakwesiphi seziza, yaye zonke zikulungele ukwakhiwa kwesikhululo samandla enyukliya. Amaxabiso e-PGA eziza ezithathu ngokulandelelana ngala 0.16 g, 0.23 g ne-0.3 g e-Thyspunt, e-Bantamsklip nase-Duynfontein. Ngokusekelwe kwiinkcukacha ezifumanekayo nomsebenzi ukuza kuthi ga ngoku, isiza sase-Thyspunt sesona sinomda ophezulu wenyikima neyona ngozi iphantsi yenyikima ngokwee-PGA zeziza ezithathu ezitshintshanayo. Ngaphezu koko, ngenxa yokungaqiniseki okunxulumene ne-PSHA ehlaziyiweyo elandela inkqubo ye-SSHAC, kukhuthazwa ukuba ngokwembono yenyikima ukuba kukhethwe kwisiza esinomda owona mkhulu kwinyikima (i-Thyspunt) njengesiza esithandwayo.

Ingozi yokwakheka komhlaba

Uhlolo lweempembelelo ezinokuba kho ezinxulumene nokwakheka komhlaba alunxulumananga kuphela ngokubalulekileyo nengozi yenyikima kodwa kananjalo nobulunga bamanzi kummandla. Iingozi zokwakheka komhlaba ziphandiwe phakathi komgama weerediyasi ezingama-320 km, ezingama-40 km nezisi-8 km ukujikeleza iziza ezicetywayo.

Iziza ezithathu zibhengezeke kwiimeko ezifanayo zokwakheka komhlaba. Iinguqu kokusingqongileyo kokwakheka komhlaba ezibangwa yintshukumo enkulu yamatye okanye intlenga ecolekileyo zicingelwa zingekhe zenzeke, ikakhulu njengoko zonke iziza ezithathu zimi kumathafa azinzileyo

³ Ingxoxo kweli candela ilinganiselwe uphando lweengcaphephe ze-EIA. Uphando olungqamene nenkqubo yokunikezelwa kwelayisenisi ye-National Nuclear Regulator (i-Human Health Risk Assessment, lingxelo zoLawulo lweSayithi nokuPhendula kwimeko yoNgxamiseko) lubandakanyiwe njengesihlomelelo kwiNgxelo ecetywayo yeEMPembelelo yokusingqongileyo ukwenzela ulwazi kuphela.

akude kakhulu kumathambeka anokuba akazinzanga ethambeka eliphezulu. Ngokuya ngokwakheka komhlaba ayikho imimandla enovakalelo ekufuneka iphetshwe kwiziza zase-Bantamsklip nase-Duynefontein. E-Thyspunt isiseko sezakhiwo ezibalulekileyo kufuneka singaweli ukudibana kweZakheko ze-Goudini ne-Skurweberg. Ngaphezu koko, abukho ubungqina nabuphi bentshukumo yentabamlilo kutshanje phakathi kwenqila yazo naziphi ize ezintathu ezicetywayo.

Uhlolo lweempembelelo ezinokuthi zibe kho ngokuphathelene nobungozi besi sifundo asingqamananga kuphela nobungozi obuphathelene neenyikima kule sayithi, ngako oko ngokuphathelene nomgangatho wamanzi kule ndawo. Ulwazi olukhoyo oluphathelene nale sayithi luveza ukuba kukho ubungozi obungephi obuphathelene namatye neeminerali, yaye akukho zinto zichasene nayo nayiphi na kwezi sayithi zintathu kwindawo ezingqongileyo.

Isifundo ngamanzi omhlaba

Uhlolo lwamanzi omhlaba luquke ubalo lwamanzi, ukwakheka komhlaba womphezulu, ukubhola, uvavanyo lokumpompa, uvavanyo lokubopha imiqulu, uhlalutyo lwekhemikhali, ubalo lokumpompoza nomzekelo wothutho nokongamela. Inkqubo yokongamela amanzi omhlaba / imigxobhozo yenziwe ithuba leenyanga ezili-12 ukusuka ngoFebhruwari 2010 kuzo zonke ize.

Iimpembelelo ezinokuba kho zichongiwe kuzo zonke ize ezintathu eziselunxwemeni kuquka ukhukuliseko ngamanzi omhlaba, ukupheliswa kweembali zamanzi engingqi, ukwehlisa umgangatho wemigxobhozo, ukungcoliseka kwamanzi omhlaba, ukwehlisa umgangatho wezakhiwo zokusebenza ngokudleka nokungcoliseka kummandla oselunxwemeni. Ukwehlisa umgangatho wemigxobhozo okunokuba kho kuhloliwe kuhlobo lwengcali yemigxobhozo.

Uhlolo luguqibe kwelokuba zonke ize ezintathu zamkelekile ngokokusingqongileyo, apho uninzi lweempembelelo zilinganiswe ziphantsi ngaphambi nasemva kokuthomalalisa. Ungcoliseko lokusasazeka kwemitha, nangona kunjalo, luchongiwe njengelokubaluleka okuphezulu phambi kokuthomalalisa, lwehliselwa koluphakathi emva kokuthomalaliswa (kusetyenziswa ukuyilwa kwe-reactor yenyukliya eyanelisa iifuneko ze-NNR zethamo eliqhelekileyo lokusebenza lezinto ezikhutshwayo nalawulo lwengozi yezinto ezikhutshwayo). Uvakalelo lunolophuhliso lweziza, ngokusekelwe kwiimeko zamanzi omhlaba, lungendlela elandelayo:

- E-Duynefontein: Luphantsi ecaleni konxweme, uvakalelo luyanda ukuya phakathi kwelizwe;
- E-Bantamsklip: Luphantsi; yaye
- E-Thyspunt: Luphantsi ukuya koluphakathi, kodwa luphezulu kwimimandla yemigxobhozo.

Uvakalelo oluphantsi lweziza lusekelwe ikakhulu kukuma kwazo kwimimandla yaselunxwemeni, apho amanzi omhlaba esekupheleni okanye kufuphi nendlela yawo yokumpompoza nezamkeli ezincinci zamanzi omlambo osinga ezantsi.

Iimeko zokusetyenziswa koxinzelelo lwamanzi

Kuzo zonke ize kukho ingozi yezikhukula enokwenzeka kwiindawo eziphantsi ecaleni kwemida yeziza eziselunxwemeni xa kuthe kwakho umphakamo ophezulu ngokungaqhelekanga wamanzi. Ingxaki yezikhukula ikho kananjalo ngokuzala kweendawo ezombiweyo ngexesha lesigaba sokwakha. Uhlolo luqinisekise ukuba ukunyuka komphakamo wolwandle okunokuba kho ngenxa yobushushu behlabathi kunokuba nesiphumo esincinci kwisikhululo samandla enyukliya esicetywayo. Ukutshintsha kwemozulu nako kananjalo kuya kuba nesiphumo esincinci xa kucingelwa ukungabi kho komlambo omkhulu kwiziza. Ngenxa yokuba lukhuni kwemiphezulu kwiziza amanzi ezaqhwithi abaleka ngemithambo yaye azikho iincam ezilindelweyo ukwanda malunga namaxa angama-25 ukuya kwangama-40 xa kuthelekiswa neemeko phambi kophuhliso. Zonke iimpembelelo, nangona kunjalo, zingaphungulwa ngokuphumeza amanyathelo okuthomalalisa.

Ezona mpawu ziphambili ezohlula iimpembelelo ezinokuthi zibe kho kwiisayithi ezintathu ezichaseneyo ziphathelene ikakhulu nokuna kwemvula, ubukho bemigxobhozo ngokwamaxesha onyaka kunye neendlela ezingaphelwayo zokuhambisa amanzi. I-Thyspunt ineyona mvula iphezulu

kwakunye nemigxobhozo ngamaxesha athile onyaka kwakunye nomlambo ongenguwo owonyaka wonke. E-Duynefontein impembelelo enokuba kho yemigxobhozo yamaxesha athile onyaka inganeno ngenxa yokuba yeyona inemvula ephantsi yazo zontathu iziza. Imvula e-Bantamsklip iphezulu kunase-Duynefontein, kodwa azikho iimpawu zovakalelo lwamanzi ezichaphazeleka ngqo okanye nayiphi imigxobhozo enovakelelo kwizinto eziphilayo neendawo zazo zokuhlala kummandla wobukho besikhululo. Iimpembelelo ngqo kumanzi eziza zonke ezintathu ngako oko zithathwe ziphantsi ukuya kweziphakathi ngokubaluleka.

Ukuhanjiswa kwamanzi afreshi

Akukho milambo okanye misinga ingaphelelwayo kuyo nayiphi isayithi kwezi zintathu zichaseneyo. Ukwakhiwa nokusetyenziswa kwe-Nuclear-1 kuya kuthi kungabi nampembelelo ithe ngqo kwiindlela zokuhanjiswa kwamanzi ngaphezu komhlaba. Ngaphezulu, njengokuba i-Nuclear-1 iza kuthi yakhiwe kwisayithi ezikunxweme apho amanzi avela phantsi komhlaba athi abe kufutshane nesiphelo sendlela, ukusetyenziswa kwamanzi avela phantsi komhlaba okunokuthi kuchapazeleke ngqo yimithombo eselunxwemeni. Naziphi na iimpembelelo kule mithombo ziya kuba zezasekhaya.

Ukukhutshwa kwetyuwa kumanzi aselwandle kuchongwe njengeyona ndlela ilungileyo ekuhanjisweni okungaqinisekiswa kwamanzi kuzo zontathu iisayithi ezichaseneyo. Ukukhutshwa kwetyuwa emanzini kuneyona mpembelelo incinane kokusingqongileyo yaye akunakuchatshazelwa lutshintsho lwemozulu.

Iimpembelelo zobume bomhlaba dunes -

Iindunduma kwisiza sase-Duynefontein ziquka iindunduma ezinqamlezayo ezishenxayo, iindunduma ezinqamlezayo ezityalwe ngokuzenzela neendunduma ezizekelisayo zezityalo zendalo. Azikho iindunduma ezishenxayo e-Bantamsklip kodwa kukho iindundumba ezigqithisileyo neendunduma ezithile ezizekelisayo. Ezi ziquka iindunduma ezinqamlezayo ikakhulu ezizinziswe ngokuzenzela ngezityalo zamanye amazwe. Amanzi aphuma phantsi komhlaba “awazonakalisi” iindunduma zeesayithi zaseDuynefontein okanye eBantamsklip. Ngako ke, akukho zimpembelelo zinokuthi zibe kho neziphathelele nonxibelelwano phakathi kwamanzi aphuma phantsi komhlaba kunye namandla eendunduma kwezi ziza.

Iindlela zokungena kunye neendlela zokuhambisa umbane zingakhiwa eDuynefontein naseBantamsklip, nezinkuthi zibe neempembelelo ezinokuthi zibe kho zokusetyenziswa ukusuka kweziphakathi ukuya kwezisezantsi ngokubaluleka. Iindlela zokungena kunye neendlela zokuhambisa umbane eDuynefontein kananjalo zingakhiwa kwindawo yeendunduma elinyiweyo nenohlaza oluziphumelayo nenempembelelo ezimbalwa ezibalulekileyo ezinokuthi zibe kho emsebenzini emva kokubiyuselwa kwimeko yesiqhelo. Kuzo zombini ezi meko, isanti ehambayo kwingingqi yesakhiwo kungafuneka ukuba izinziswe. Umhlaba ongaphezulu neengqumba ezibekwe kwiindunduma ezishenxayo e-Duynefontein uya kuba neempembelelo zokusebenza eziphakathi ngokubaluleka. Iingqumba ezinjalo ezibekwe kwiindunduma ezityalwe ngokuzenzela, iindunduma ezizekelisayo ezityaleke ngokwendalo e-Duynefontein okanye iindunduma ezinezityalo okanye iindunduma ezizekelisayo e-Bantamsklip ziya kuba neempembelelo zokusebenza eziphantsi ngokubaluleka.

Unxibelelwano phakathi kwenkqubo zesanti kunye nemigxobhozo ixandile kwisayithi yaseThyspunt, kuba amanzi aphuma phantsi komhlaba esonakalisa iindawo ezininzi ezinesanti kwindawo enesanti eshenxayo eOyster Bay ukubangela imigxobhozo. Kukho unxulumano phakathi kwesanti nemigxobhozo, amanzi aphuma phantsi komhlaba kunye namanzi angaphezulu komhlaba. Ngoko ke, nakuphi na ukuphazamiseka kwendawo enesanti eOyster Bay kungabangela iimpembelelo ezimandla kwimigxobhozo. Ngaphezulu, ngenxa yeendawo ezikuyo izakhiwo neendlela zokuhambisa, mhlawumbi iindlela zothutho, phakathi kwesikhululo senyukliya esisemazantsi kunye neyadi yeHigh Voltage esemantla, iimpembelelo ezisenokuba kho kubume besanti eThyspunt zisenokuba ngaphezulu kunezinye iisayithi ezimbini ezichaseneyo. Xeshikweni uninzi lweempembelelo ziya kuba zezokubaluleka okuphantsi ukuya kokuphakathi, ezinye iimpembelelo zokubaluleka okuphezulu (ngaphandle kokuthomalalisa) zingenyuka ngenxa yokwakhiwa kweendlela zokungena empuma nasentshona ukunqamleza iindunduma ezinezityalo, iintambo zothumelo neengqumba zezinto ezingafunwayo. Ukwakhiwa okucetywa okokugqibela kwe-Nuclear-1 (kuquka neendlela kunye neentambo zombane), kunye nokusetyenziswa kwendlela echanekileyo yokwakha (umz. Ukusetyenziswa kweenqwelo-ntaka ukufakela iipali ezinkulu zombane kunye nokuzidibanisa,

ukubuyiselwa kwimo yesiqhelo kweendawo ezonakalisiweyo, ukuncitshiswa kwenani leempembelo zeendlela ezakhiwayo njl njl.) kuya kufuneka kwenziwe ngentsebenziswano enkulu neengcali zokwakheka komhlaba nezemigxobhozo ukuqinisekisa ukuncitshiswa kweempembelo ezinokuthi zibe kho kwiindunduma.

Ingozi yokumpompoza kobutyobo, ukunyibilikisisa nomonakalo weendlela kwiSiza sase-Thyspunt

Ukusabela kwizimvo zabathathi-nxaxhaba abaliqela, uhlolo lwengozi yokumpompoza kobutyobo kwisiza sase-Thyspunt lwenziwe. Ukumpompoza kobutyobo kwenzeka kumathambeka amqengqelezi kudla ngokuqalwa ngamanzi. Uhlolo lugqibe kwelokuba akukho ngozi ibalulekileyo yokumpompoza kobutyobo kwisiza se-Nuclear-1 okanye iindlela zokungena, ngenxa yokuba amathambeka ommandla akakhuthazi ukumpompoza kobutyobo (oko kukuthi akekho mqengqelezi ngokwaneleyo). Indawo ekhethwayo ukwenzela i-Nuclear-1 isemazantsi eendunduma ezishenxayo esizeni yaye ngako oko kukho ingozi encinci yokunyibilika kwesanti (okanye imigxobhozo yentlabathi). Uphando olunzulu lwezikhukula kwiNdlela u-R330 lugqibe ekubeni iikholbethi ezingaphantsi kwale ndlela zanele ukujongana noninzi lweziganeko zezikhukula kwibali lakutshanje, nangona ngamaxesha athile amanzi azala phezu kwendlela. Iindonga ezisemacaleni eekholbethi zonakala ngexesha lesikhukula sangoNovemba wama-2006 yaye kukhuthazwa ukuba ezi zilungiswe.

Iimpembelelo kumgangatho womoya

Ngokubhekiselele ekulinganiseni kwenkqubo yokuveliswa kombane kwi-Nuclear-1 kuzo zonke iisayithi ezichaseneyo, ubume bokukhutshwa komoya iya kufana kakhulu kuzo zonke iisayithi. Ezona mpembelelo zibalulekileyo nezinokuthi zibe kho kumgangatho womoya zingathi zivakale ngethuba lolwakhiwo, ngenxa yokuhanjiswa kothuli kwimisebenzi yolwakhiwo (ukucoca, ukugrumba, ukukrwela, iindlela, nj njl.) kunye nokukhutshwa komsi ezimotweni nakwizixhobo. Iimpembelelo zesigaba solwakhiwo ziyakubaluleka kakhulu ukuba akukho zindlela zakunciphisa ezi zilinganiselweyo zithi zisetyenziswe, koko ekunciphiseni ukufakelwa kwetha ezindlela nokuphunyezwa kwesicwangciso solawulo lobulunga bomoya.

Iimpembelelo kwisigaba sokusebenzisa zizingcolisi-moya ezingasebenzisi mitha zicingelwa ukuba zibalwa ngokubaluleka. Ngaphezulu, ngokubhekiselele kwiimpembelelo ezicingelwayo zokukhutshwa komsi ongenamitha nonemitha, iimpembelelo zokusebenzisa kuzo zonke iisayithi ezichaseneyo zingaba phantsi kwezikhokhelo ezisemthweni nezilinganiselweyo. Iimpembelelo ezinokuba kho ngako oko ziyafana kuzo zontathu iisayithi ezichaseneyo ngokweempembelelo zobulunga bomoya yaye akukho sayithi ikhethwayo.

Iimpembelelo kwizityalo

Kwezi sayithi zintathu, i-Bantamsklip iya kuba nezona mpembelelo zibalwa kwizityalo, njengoko izityalo nandlalo kule sayithi ziyinto eqhelekileyo kummandla oselunxwemeni, kuxhomekeka ekubeni isikhululo samandla ombane sikwisiqingatha esiseMpuma, kude nefynbos nelitye elineeminerali. Ngokuphathelene neesayithi i-Thyspunt neDuynefontein, i-Thyspunt ukuza kuthi ga ngoku inezona zityalo zohlukeneyo, kuquka nezo zikwimigxobhozo enobugcalagcala, ngokukodwa eLangefonteinvlei, empuma yesayithi. Ngoko ke, kwiisayithi ezintathu ezichaseneyo, i-Thyspunt iya kuba nezona mpembelelo zinokuthi zibe kho (o.k.u. yiyona, ilandelwe yi-Duynefontein (phakathi) ibe yiBantamsklip (eyona ikhethwayo). Iindlela zokunciphisa ezicetywa ziingcaphephe, ezifana nokukhangela nokusindisa ze kutshintshelwe kwenye indawo kwezityalo ezinqabileyo, ukubuyiselwa kwimo yesiqhelo kweendawo ezophazamisekileyo, ulawulo lwezityalo ezingezo zalapho ngokwendalo, ubuchule bokwakha, njl njl. ziyakhuthazwa ukunciphisa ukubaluleka kweempembelelo ezichongiweyo nezinokuthi zibe kho.

Iimpembelelo kwimigxobhozo

Ukwakhiwa okuthandwayo kweendawo zomatshini eDuynefontein kwenziwa kude kakhulu kwimigxobhozo enelona vakalelo luphezulu kwinxalenye esemzantsi-ntshona yesiza. Ukwenza umzekelo wamanzi omhlaba kungqine ukuba umsebenzi wokutsala amanzi uya kuba nengozi ephantsi kule migxobhozo yendalo neyenziweyo kwisiza. Ngaphandle kokuthomalalisa, iimpembelelo ziphakathi ngokubaluleka. Ngokufanayo, ngenxa yendawo ethandwayo, uphuhliso lweNuclear -1 e-Bantamsklip alunakuchaphazela ngqo umlambo obaluleke kakhulu we-Groot Hagelkraal River nemitsito yamathambeka ayamane nawo nomzantsi wentlambo yemigxobhozo yamasebe. Iziphumo

zeempembelelo zichongwe ziphakathi ngokubaluleka yaye akunakungqanyaniswa nazo naziphi na iimpembelelo kwiinkqubo zemigxobhozo. Xa zithe zancitshiswa, iimpembelelo kwisayithi azinakubaluleka kakhulu.

E-Thyspunt, ngaphandle kokuthomalalisa, uphuhliso lungaba nesiphumo esikhulu sokwehlisa umgangatho weenkqubo zomgobhozo ezingachatshazelwanga yimpembelelo. Nangona kunjalo, ukongamela okongezelelweyo kwamanzi omhlaba nomzekelo wamanani owenziweyo uqinisekise ukuba iziphumo ezibalulekileyo e-Langefonteinvlei zingathomalala, ngokusebenzisa iindonga ezifanelekileyo zokuvala ngexesha lokutsala amanzi omhlaba ukulungiselela ukwakha. Ngaphezu koko, ukuba i-Nuclear-1 yakhiwa kwesi siza, ummandla wolondolozo lwemigxobhozo kungafuneka wandiswe, nto leyo inokuzisa iimpembelelo ezilungileyo. Ngoko ke, ngokwemigxobhozo, ukuza kuthi ga ngoku, ezona mpembelelo zimandla zingenzeka eThyspunt, nezinokuthi zenze ukuba iBantamsklip naseDuynefontein zingabaluleki kakhulu (phakathi). Iindlela zokunciphisa ezikhuthazwayo ziingcaphephe ekuthinteleni imigxobhozo okanye ngokunciphisa iimpembelelo zazo ezinokuthi zibe kho (umz. Ukuqwalaselwa okongezelelweyo, ukuphumeza uyilo lwendawo yesidambisi sokukhupha amanzi evumela ulawulo lokwabiwa ngokutsha kwamanzi omhlaba akhutshiweyo ukuya kwisidali samanzi, ukusebenzisa iindonga zokwenza umda ukujikeleza onke amacala endawo ekutsalwe amanzi kuyo, nokwenza ibrorho kwiindawo ezingqonge imigxobhozo, ezingenakho ukuphetshwa ziindlela zokungena) kufuneka kuphuyezwe.

Iimpembelelo kwizilwanyana ezingahlali manzini

Uninzi lweempembelelo ezinokuthi zibe kho kwizilwanyana ziqhelekile kuzo zontathu iisayithi ezichaseneyo, nangona ubungozi bazo busenokwahluka ngokweesayithi.

E-Duynefontein ubungakanani bomhlaba ofumanekayo wophuhliso ongenalo uvakalelo oluphezulu kwizilwanyana zelizwe ukuba unqongophele, kodwa wanele ukuvumela i-Nuclear-1. Nangona kunjalo, uphuhliso lunokuba neempembelelo ngqo, ezingalunganga kwindawo yokuhlala yezilwanyana zelizwe eziphakathi kwemimandla yesikhululo. Amathuba eendawo zolondolozo kwisiza anqongophele ngenxa yokuba umhlaba sele ulawulwa njengenxalenye yolondolozo lwendalo.

E-Bantamsklip, ubungakanani bomhlaba ongenalo uvakalelo oluphezulu kwizilwanyana zelizwe ophakathi konxweme neNdlela u-R43 ofumanekayo ukwenzela uphuhliso mninzi ngokwaneleyo ukuvumela uphuhliso lwe-Nuclear-1. Inxalenye yepropati ngaphakathi kwelizwe kwiNdlela u-R43 inovakalelo oluphezulu kwizilwanyana zelizwe yaye kufuneka ungaphuhlisa kwaphela. Iindawo ezinokuba nokubaluleka okuphezulu kulondolozo zinokuba kho e-Bantamsklip ukuba umhlaba ongaphuhlisiwanga ubhengezwa njengowokulondolozisa indalo yaye ulawulwe ngempumelelo ngaloo ndlela.

E-Bantamsklip i-Nuclear-1 inganeempembelelo ezithe ngqo, ezingentle nezinokuthi zibe kho kwizilwanyana. Kanti, kusenokuba kho izilwanyanana ezivela kolunye uhlobo eBantamsklip, ukuba indawo engakhiwanga ichazwe njengeyolondolozo lwendalo, yaye ilwawulwa ngolo hlobo. E-Thyspunt, i-Nuclear-1 inganeempembelelo ezingentle ezinokuthi zibe kho kuba yeempembelelo ezithe ngqo kwizilwanyana kwezo ndawo, ukwakhiwa kwiindlela ezimbini zokungena nezintsha, kunye nemfundo yokwakha indawo esantini. Iindlela zokunciphisa ezicetywe ukunciphisa iimpembelelo zazo ezinokuthi zibe kho (umz. Imisebenzi yokukhangela nokusindisa phambi kokuqaliswa kokwakhiwa, ukufakelwa kwesixhobo sokulumkisa iintaka ngeentambo zombane, ukusetyenziswa kwezibane ezifanelekileyo zangaphandle, uyilo oluchanekileyo locingo, ukusetyenziswa kweendlela ezifanelekileyo zokwakha nokusebenzisa njl njl.) kufuneka zisetyenzisiwe ukunciphisa iimpembelelo ezinokuthi zibe kho. Ngokufanayo nase-Bantamsklip, iimpembelelo zokubaluleka okuphezulu ezinokuba kho zolondolozo lwendalo zinokuba kho e-Thyspunt ukuba umhlaba ongaphuhlisiwanga unokubhengezwa njengowokulondolozisa indalo yaye ulawulwe ngempumelelo ngaloo ndlela.

Iimpembelelo kwizilwanyana ezingahlali manzini

Iimpembelelo ezinokuba kho kwisikhulo esicetywayo samandla ombane se-Nuclear-1 kwizilwanyana ezingahlali manzini ziyafana kakhulu kuzo zontathu iisayithi, yaye ngokungamandla zinxulumene ngqo nokutshabalalisa iindawo zokuhlala zezilwanyana nezityalo neziphili zengingqi, ngokubangwa kukukhanya kokuzenzela nokuba kho kokusasazeka kweentlobo ezihlaselayo zamanye amazwe. Kukho iindawo ezohluka ngazo ngokwesayithi nganye ezifumaneka kwisiza ngasinye.

Akukho mabhabhathane ekulindeleke ukuba afumaneke kummandla we-Cape Flats Dune Fynbos ongqonge i-Duynefontein, asemngiphekweni yaye ngawalapho. Iindawo ezingenaluhlaza okanye ezingenaluhlaza ngokupheleleyo zale sayithi zichongwe njengezinobugcalagcala obubobona buncinane nezinobuncinane ngokulandelelana kwazo. I-Duynefontein ithathwa inelona vakalelo luphantsi kuzo zonke iziza ezintathu ezitshintshanayo. Nangona uhlobo olungachazwanga lwembovane lufunyenwe kwesi siza, luhlobo olufumaneka ngokubanzi olunokuba kho kwiqela lemimandla ehlukeneyo.

I-Bantamsklip inelona nani liphantsi lobutyebi beentlobo kodwa ithathwa ngokuthi inelona thuba liphezulu lweentlobo ezinqabileyo, ezisoloko zikho nezisagcine uhlobo lwazo lwamandulo lwezilwanyana ezingenawo umqolo. Ngaphezu koko, ukubhaqwa kwesigcawu esitsha esibizwa i-mygalomorph neentlobo ezintsha zembovane (nangona kucingwa ukuba oku kokuqhelekileyo ngokubanzi), kuthetha ukuba i-Bantamsklip ithathwa inovakalelo oluphezulu kuphuhliso kuzo zontathu iziza ezitshintshisanayo.

I-Thyspunt inawona mabhabhathane ohlukeneyo ngandlela zonke ikwanexabiso lokuwalondoloza kunezinye iisayithi ezichaseneyo. Oku kunye nobukho beentlobo ezininzi zeembovane kunye neentlobo ze-Onchyophoran kubonisa ukuba i-Thyspunt inexabiso elibalulekileyo kulondolozo lwendalo. I-Thyspunt ichongwa njengenobugcalagcala kuneDuynefontein, yaye ingaphantsi nje kancinci kuneBantamsklip.

Ezi sayithi xa zithelekiswa ngokobugcalagcala obukhulayo nokufaneleka, kuqala i-Duynefontein, kulandele i-Thyspunt, ze ekugqibeleni ibe yi-Bantamsklip. Ngokweempembelelo ezinokuthi zibe kho nezilungileyo, i-Duynefontein sele ixhamla kwizibonelelo phantsi kolawulo lukaEskom, nto leyo ithetha ukuba iya kuba neyona nkqubela incinane kwezolondolozo. I-Bantamsklip neThyspunt, kwelinye icala, zingaxhamla kakhulu ekuzuzeni iwonga elikhuselwe ngokusesikweni. Ngoko ke, Thus iprojekthi ecetywayo inganeempembelelo ezilungileyo kwizilwanyana zaseBantamsklip okanye zaseThyspunt.

Iimpembelelo kwisifundo nezaselwandle

Iimpembelelo zobume besifundo esinokuthi sibe kho ngezaselwandle bunempembelelo ziyafana kuzo zonke iisayithi ezichaseneyo. Ngokunokwenzeka, ezona mpembelelo zibalulekileyo kukuhlutshwa kwemeko yezaselwandle ngokuthi kulahlwe izinto elunxwemeni, nangokukhutshwa kwamanzi okupholisa afudunyeziweyo. Uphazamiso luya kwayanyaniswa nokulahlwa kwezinto ezingafunwayo elwandle. Ukuthomalalisa iimpembelelo kwizinto eziphilayo neendawo zazo zokuhlala kunye neembaza e-Bantamsklip ne-chokka squid e-Thyspunt, kukhuthazwa ukuba izinto ezingafunwayo zilahlwe kuphela kwiindawo ezinzulu kude nonxweme. Isantya esiphakathi sokumpompa kufuneka kananjalo sisetyenziswe e-Thyspunt. Ukulahlwa kwezinto ezingafunwayo kuya kuba nempembelelo encinci kwi-chokka squid e-Thyspunt xa kuthathelwa ingqalelo indawo ebanzi apho ezi ntlobo zibekela amaqanda khona. Ngaphezu koko, yinxalenye encinci nje elotyweyo ethathwayo kwindawo ekulindeleke ukuba ichatshazelwe kukulahlwa kwezinto ezingafunwa.

Ukufudunyezwa kwamanzi olwandle kuya kuthomalaliswa ngokuyilwa kweetonela zenkqubo yokukhupha kwiindawo ezininzi zokukhupha ukunceda ukusasaza ubushushu obugqithisileyo. Amanzi aya kukhutshwa ngaphezulu komzantsi wolwandle ukunciphisa iziphumo kokusingqongileyo okuphila ezizulwini zolwandle (i-benthic) ngokusebenzisa isantya esiphezulu sokumpompoza kwiindawo zokukhupha ukwandisa ukuxubana namanzi apholileyo. Xa kucingwa nge-chokka squid ekunokwenzeka iphephe amaqondo obushushu amanzi angaphezulu koluhlu lokunyamezela ubushushu, indawo eqikelelwa ukuba iyachaphazeleka kukunyuswa kweqondo lobushushu bamanzi imele indawo enganeno kwepesenti yendawo yokubekela amaqanda elunxwemeni.

Ngokwaselwandle, akukho ikhethwa ngokucacileyo. Zonke iisayithi zinganemigangatho efanayo eempembelelo ezingentle, yaye iimpembelelo kuzo zonke iisayithi zinga ncitshiswa ngokwaneleyo ukuba uyilo olucetywayo luphunyezwa ngendlela olucwangcise ngayo.

Iimpembelelo kwisifundo sazaselwandle namaza amakhulu ngaselunxwemeni

Nangona esona sakhawo siphambili se-Nuclear-1 siya kwakhiwa ubuncinane iimitha ezili-10

ngaphezulu kwesiseko solwandle, isakhiwo esingqameneyo esifana nesokungenisa nokukhupha amanzi okupholisa, kunye nokukhutshwa okonokuthi kube kho kwenkunkuma, zingaba neempembelelo kwiimeko zaselwandle.

Iimpembelelo ezinokuba kho zezaselwandle eziphathelele nolwakhiwo zilindeleke ukuba zifane kwisayithi nganye echaseneyo, zontathu ezi sayithi zikulungele ukwakhiwa kwe-Nuclear-1. Kanti, ukuba i-Bantamsklip itha yakhethwa, uhlalutyo luqinisekise ukuba intlenga yeengceba idla ngokubonakala ngamanye amaxesha e-Dyer Island. Iimpembelelo zokulahla izinto ezingafunwayo kumaza amakhulu ngaselunxwemeni e-Thyspunt ziya kuba ncinci, ngokucinga ukuba kusetyenziswa isiza esinzulu saselwandle, njengoko kukhuthazwa (ngokuchasene nezinye iziza ezingekho nzulu). Ukwenza umzekelo wokuhamba kwentlabathi kubonisa ukuba izinto ezingafunwayo azinakufika emantla ukuya kude kangangase-Jeffreys Bay yaye ngako oko azinakuba nempembelelo kwiimeko zamaza angaselunxwemeni apho. Kananjalo ziya kunqongophala kakhulu iimpembelelo kwimeko yamaza akufuphi ne-St. Francis.

Uhlalutyo losasazo lweengceba ezirhabaxa ezibhudlwe lulwandle (i-plume) ezishushu kwisiza ngasinye lubonisa ukuba kukho usasazeko olungathandekiyo lweengceba ezishushu e-Thyspunt, apho iingceba zibonwa zibambebele kumzila oselunxwemeni yaye zingekho nzulu kufuphi nemimandla yaselunxwemeni. E-Bantamsklip, ukusetyenziswa komjelo wokulahla okufuphi nonxweme kuya kwenza iingceba ezishushu ezibonakalayo kunezo ezilahlwa ngomjelo wetonela olahla kude nonxweme yaye ngenxa yeso sizathu indlela yokugqibela ithathwa ilukhetho oluthandekayo. Eyona ndlela inobuchule yokulahla iingceba ezishushu iya kwenzeka e-Duynefontein. Nangona kunjalo, usasazeko lweengceba luthathwa lwamkelekile kuzo zonke iziza ezitshintshanayo.

Ngokweempembelelo ze-Nuclear-1 ngokwazo, ezi zingaphakama ukusuka kukhukuliseko ukusuka elwandle nokuphazamiseka kokuthunyelwa kwamanzi okupholisa. Ngenxa yobunzulu noyilo lweendawo zokufaka amanzi, uphazamiseko lokunikelwa kwamanzi okupholisa aluthathwa lunokuba yimpembelelo nakwesiphi seziza. Ukuba i-tsunami idibana neemeko ezigqithisileyo zemozulu (isiganeko semozulu yetsunami), imiphakamo yamanzi ingagqitha umphakamo ocetyiweyo. Nangona kunjalo, ukwenzeka kwetsunami kungeke kwenzekwe xa kuthathelwa ingqalelo ingozi ephantsi yentshukumo yenyikima kulwandlekazi olujikelezileyo.

Iimpembelelo zoqoqosho

Iimpembelelo ezilungileyo zezoqoqosho zizonke ziya kuba ninzi eBantamsklip naseDuynefontein, ze zibe mbalwa eThyspunt, njengoko iisayithi ezimbini zokuqala zibekwe kwiphondo elinoqoqosho olohlukeneyo noluncomekayo. I-Nuclear-1 ingakhokhelela ekususweni okungaphantsi kwemisebenzi yezoqoqosho (ubonelelo lwezinto ezifunekayo zokuhambisa i-Nuclear-1 nokugcina ingeniso yekhaya esetyenziswe phakathi kwephondo) ukuba ibekwe eDuynefontein, kunenye yezi sayithi zimbini. Izibonakaliso zezoqoqosho olukhulu ngako oko zivumela i-Duynefontein neBantamsklip.

Kanti, uhlalutyo lokuhambelana namaxabiso lubonakalisa ukuba i-Thyspunt ingaphezulu kancinci kuneDuynefontein, yaye ingaphezulu kancinci nakuneBantamsklip.

Uhlolo lweempembelelo zezoqoqosho lunikezela ngomsebenzi omkhulu kuhlalutyo lokuhambelana namaxabiso. Oku kuvumela i-Thyspunt, ilandelwe yi-Duynefontein neBantamsklip. Nangona kunjalo, imahluko phakathi kweziza ezitshintshanayo mincinci (ngokobulumko ngepesenti), yaye zonke iziza bezinokuba neempembelelo zoqoqosho ezilungileyo kumazinga esizwe, engingqi nawephondo. Mincinci kakhulu umahluko weendleko phakathi kwe-Thyspunt ne-Duynefontein. Nangona kunjalo i-Bantamsklip inokuba sisi-R6.38 sebhiliyoni ngaphezulu ngexabiso ukuphuhlisa kune-Thyspunt, engange-R5.8 yeebhiliyoni ngaphezulu ngexabiso ukuphuhlisa kune-Duynefontein.

Iimpembelelo zasekuhlaleni

Ngokwasekuhlaleni, eyona mpembelelo inokuba kho nebalulekileyo nenokuvela kwisikhululo sombane iphathelele kwindawo yokuhlalisa abasebenzi bexeshana, ngethuba lokwakha. Ukuba nokwenzeka kokungungelana kwabantu abafuna imisebenzi nako kukwayinyani. Abasebenzi abangxungxileyo, bedibene nabantu abangungeleneyo bengafumenanga misebenzi, banganeempembelelo ezininzi ngokwasekuhlaleni. Oku kuquka, phakathi kwezinye, ungquzulwano kunye noluntu lwasekuhlaleni, ukhuphiswano ngomsebenzi (ukwanda komngcipheko wezifo ezosulela ngesondo, kunye

nokukhululelwa okungafunwayo nokukhokhelela kubantwana abangenayise). Ukwanda kubundlobongela nakwezinye izinto ezingekho mthethweni ezinokuba kho nazo azinakushiya ngaphandle.

Eyona mpembelelo ilungileyo inokuba kho ngokwasekuhlaleni kukunikezelwa kombane kunye nonxulumano lwayo noqoqosho ngokubanzi ngokwesizwe nangokwengingqi ngokomsebenzi wexeshana, amathuba oshishino lwasekhaya (ii-SMME), kunye nophuhliso lwezakhono olunokuthi lube kho ngethuba lolwakhiwo. Ukubaluleka nokulandelelana ziphakamile ngokubhekiselele kumazinga aphakamileyo endlala nentswela-ngqesho nezibonakalisa ubume bezentlalo kuzo zontathu ezi sayithi. Umgangatho wokuvulwa kwamathuba engqesho ekhaya ngethuba lokhwakhiwa ungabonwa ulungile, kuxhomekeka kumgangatho wokusetyenziswa kwabasebenzi basekuhlaleni ngethuba lenkqubo yokwakhiwa, nasekuqinisekiseni owona mgangatho uphezulu weemeko zabasebenzi.

Eyona mpembelelo ixakayo nenokwenzeka iphathelene kubungozi obunokuba kho obuphathelene neemeko zenyukliya. Ngokwasekuhlaleni, ubungozi ngamava ayinyani afunyanwa nguye wonke ubani, ngeendlela ezohlukeneyo. Ubungozi obucingelwayo bungakhokhelela kutshintsho kwindlela abantu abazibona ngayo izinto, nokunothi kutshintshe indlela abaziphethe ngayo. Kubaluekile ke ngoko ukuqinisekisa ukugqithiselwa okukuko kolwazi oluchanekileyo ukuze unxibelelwano lukwazi ukohlula phakathi kobungozi obucingelwayo kwanobo buyinyani.

Iimpembelelo ezibonakalayo

Ngenxa yobungakanani besikhululo senyukliya nendawo esikuyo esekuhleni, engenamithi elunxwemeni, apho kukho ukubonakalisa okulinganiselweyo kweendidi zomhlaba. Iimpembelelo ezibonakalayo nezinokuba kho kwezi sayithi zintathu zingabaluleka. Isikhululo samandla siya kubonakala ukusuka kwi-5 km, yaye isibane esibomvu phezu kwepali yenzululwazi ngemozulu ukusuka ngaphezulu kwe-10 km⁴. Nangona kunjalo, imbonakalo yeepali iya kuxhomekeka kwimeko zemozulu ezinamafu/ iimeko zenkungu ezisitha imbonakalo yeepali. Ngaphandle kweempembelelo ezinokuba kho kubahlali, iimpembelelo ezibonakalayo zingachaphazela iindwendwe kuloo mmandla. Iimpembelelo zingancitshiswa ngokuthatha amanyathelo okuthomalalisa acetywayo ziingcaphephe (umz. Umbala wezakhiwo ezikhulu, ukusetyenziswa kwezikrini, ukusetyenziswa kwezikhanyisi ezifanelekileyo, ukubekwa kwindawo efanelekileyo kwendawo yokulahla inkunkuma ephuma xa kugrunjwa, njl njl.)

Iimpembelelo yezelifa

Zontathu ezi sayithi zinembali abalulekileyo, kuba zikwiindawo ezaziwa ngokuba zibalulekile ngokweemfuno ze-archaeology neze-palaeontology. Umyinge wesikhumbuzo sakudala oya kuthi uchatshazelwe eDuynefontein, uya kuba ngaphantsi kakhulu kunalowo waseBantamsklip naseThyspunt. Kanti, i-Duynefontein inobugcalagcala ngokuphathelene ne-palaeontology. Inkqubo eqakayo yokuthomalalisa (yokomba) inokuba nenzuzo yezenzululwazi njengoko inokuvumela ukuqokelelwa nokuphononongwa kweefosil ze-Caenozoic kwimingxuma enzulu yesikhululo samandla esicitywayo.

E-Thyspunt, womabini amafa obuzwe e-archaeology ne-palaeontology achumile, amele uluhlu olubanzi kakhulu lwezinto, ezo uninzi lwazo lulondolozwe kakuhle kakhulu. Ukuthomalalisa iimpembelelo e-Thyspunt kuya kuba nzima kakhulu ngenxa yeengxaki zokufikeleleka, ezinokuba nempembelelo kwinkqubo yokwakha i-Nuclear-1. Ngaphandle kweenkqubo zokuthomalalisa ezinde nezimbaxa, izinto ezininzi ze-Pleistocene palaeontology ne-archaeology ziya kulahleka ngexesha lokwakha. Ngaphezu koko, iimpawu zentlango zale nxalenye yonxweme zibalasele yaye zenza igalelo eliphathekayo kuphawu lwenqila, elinegalelo kwisigqibo sokuba i-Thyspunt ithobela inkcazo 'yeMbonakalo yeNkcubeko' phantsi kwe-UNESCO World Heritage Convention.

I-Bantamsklip iphantse ibe nobugcalagcala njengeThyspunt ngokubhekiselele ekutyebeni kwesikhumbuzo sayo. Kanti, iindlela zokunciphisa ziya kuthi zibe sethubeni elihle lokuphumelela eBantamsklip, njengoko iisayithi zesikhumbuzo zibonakala kakuhle yaye zifikeleleka kule sayithi.

⁴ The EIR has recommended that SODAR technology, which does not require a mast, should be used.

Nangona kunjalo, ulondolozo nomthamo weziza ze-archaeology e-Thyspunt lubalasele, ukuthomalalisa kuya kuthatha ixesha elide, kube zindleko yaye kufune imithombo yoncedo enzulu, efuna ukuya kutsho kwixesha lonyaka phambi kokuqalisa ngokwakha.

Iimpembelelo kumafa obuzwe enkubeko yoluntu nembonakalo-mhlaba ngako oko ziya kubaluleka nangakumbi e-Thyspunt kunase-Bantamsklip okanye e-Duynefontein. Ngenxa yesi sizathu, i-Thyspunt iqwalaselwa ukuba sesona sithandwa kancinci ngokwembono yamafa obuzwe.

Iimpembelelo zezolimo

Kukho imveliso ekhoyo yezolimo kuzo zontathu ezi sayithi zichaseneyo. Iindidi zeemveliso zezolimo zohluka kakhulu, uumandla ongqonge i-Duynefontein ixubile ngokuphathele kwimfuno nolimo, kuquka ulimo lwengqolowa nediliya. Ukuveliswa kweemveliso zobisi kuko okuphambili kwisayithi yase-Thyspunt, ze ukulinywa kwentyatyambo i-fynbos ibe kuko okuxhaphakileyo eBantamsklip. Ummandla ongqonge i-Bantamsklip nawo unayo imveliso yobisi, iinkomo, iigusha nezinye izilwanyana zasendle.

Eyona nzuzo inkulu ngokubhekiselele ekunyusweni okucingelwayo kwemveliso yezolimo ngenxa yokwanda kwemfuno yeempahla zolimo ingase-Thyspunt, ilandelwe yi-Bantamsklip (enokwanda okuncinci kwemveliso), kuze i-Duynefontein (nengenakukhula kwimveliso). Ezinye iimpembelelo ezinokuthi zibe kho neziphambili zesikhululo samandla ombane kwezolimo, ingakukukhutshwa kothuli ngethuba lolwakhiwo (phambi kokugqitywa kokufakwa kwetela kwiindlela ezingenayo) kunye nokunqongophala okunokuthi kube kho kwabasebenzi kwezolimo. Ezi mpembelelo ezingalunganga zexesha elifutshane zithathwa zikokona kuphantsi ukubaluleka kweempembelelo e-Duynefontein, ilandelwe yi-Bantamsklip (ukubaluleka okuphantsi) ne-Thyspunt (ukubaluleka okuphakathi). Xa kuthathelwa ingqalelo yenyano yokuba iimpembelelo ezingalunganga ngokubanzi zezexesha elifutshane kuneempembelelo ezilungileyo, ngokombono wemveliso yezolimo i-Thyspunt yisayithi ekhethwayo, njengoko imveliso yezolimo isenokukhula kule sayithi, yaye ilandelwe yi-Bantamsklip kuze i-Duynefontein.

Iimpembelelo zezokhenketho

Uluntu lwaseThyspunt naseBantamsklip luvakalise ukuchasa kwesikhululo esicetywayo samandla enyukliya. Uluntu lwaseThyspunt luvakalise indawo ebonakalisiweyo yezendalo ekupheleni konxweme, ze uluntu lwaseBantamsklip lwagxininisa kubume obu-ethe-ethe nobutsha bemveliso yezokhenketho ephuhlayo, kunye nemeko yoxhomekeko. Ngeli lixa abanye ababandakanyeka kukhenketho eDuynefontein bechasene nolwakhiwo nokusetyenziswa kwesinye isikhululo zamandla enyukliya, bayaluqonda ushishino olukhulayo olunokuthi lube kho yaye bekhuthaza ukuqwalaselwa kokhenketho.

Uhlolo lweempembelelo zokhenketho zithelekelele ukuba kuya kuba kho impembelelo engephi enokuthi ibe kho eDuynefontein ngethuba lolwakhiwo. I-Bantamsklip icingelwa ukuba ibe ne-5 % yempembelelo ezokuthi ibe kho nelungileyo ngethuba lolwakhiwo, ze i-Thyspunt icingelwe ukuba ibe ne-7.86 % yembelelo engentle kwezokhenketho ngethuba lolwakhiwo. (ngenxa yemalike ethile yangoku yeholide ingabuyekezwa ngokupheleleyo luhlumo lorhwebo kwezokhenketho e-Thyspunt). Ngethuba lokusetyenziswa, i-Duynefontein ilindeleke ukuba ibe ne-1.43 % yembelelo ekuphuculweni kwezokhenketho, i-Bantamsklip icingelwa ukuba ibe ne-8.57 % enokuthi ibe kho ekuphuculweni, ze i-Thyspunt icingelwe ukuba ingabinampembelelo inokuthi ibe kho. Onke la manani athabathela ingqalelo ukwehla kukhenketho olusekelezwe kwimdalo, nokunyuka kukhenketho olusekelezwe kwezorhwebo, nolubhekiselele kwisikhululo esicetywayo samandla.

Uhlumo olukhawulezayo lwecandelo lokhenketho kummandla okufuphi ne-KNPS ukusuka ekuvulweni kwayo nokwanda kweshishini lokhenketho e-Lephalale (ngenxa yokwakhiwa kwe-Medupi Power Station) kucebisa ukuba ukhenketho nesikhululo samandla zingaphila kunye. Amava afanayo abe sisiphumo sokusebenza kwezikhululo zamandla enyukliya eYurophu.

Iimpembelelo zengxolo

Uninzi lweempembelelo zengxolo ezinokuthi zibe kho ngokwesikhululo samandla ombane esicetywayo nezingqamene nesikhululo samandla enyukliya esicetywayo, zimbalwa yaye azibalulekanga kakhulu. Ngenxa yeendlela ezinde phakathi kwesikhululo samandla ombane

esicetywayo kunye nomda ophakathi kwesakhiwo sikaEskom, akuyi kuba kho zimpembelelo zinokuthi zibe kho zengxolo kwindawo engqonge nayiphi na isayithi echaseneyo ngethuba lolwakhiwo okanye ukusetenziswa kwe-Nuclear-1. I-Open Cycle Gas Turbine (OCGT) akusacetywa ukuba ibekwe ngaphakathi kweYadi ye-HV kodwa ngaphakathi kwesakhiwo sesikhululo samandla e-Thyspunt (siso kuphela isiza ekucetywe ukuba sibe ne-OCGT) yaye ngaloo ndlela azikho iimpembelelo zengxolo ezibalulekileyo ezayamaniswa nokusebenza kwaso eziya kwenzeka kwiindawo zokuhlala zefama ekufuphi. Akukho zindlela zizodwa zokuncitshiswa kwengxolo eziya kuthi zifuneke.

Akukho mpembelelo yangxolo ingqamene nokwakhiwa kweendlela ezintsha kwiisayithi ezichaseneyo ilindelekileyo, ngaphandle kwendawo yokungena esentshona eya eThyspunt, apho iya kugqitha kuma-230 eemitha nje zelokishi yaseUmzamowethu. Amanyathelo okunciphisa aquka ukusebenzisa iinkqubo zokwakha noomatshini abakhupha amazanga aphantsi engxolo, ukuphumeza inkqubo yokukhawuleza ukugqiba inkqubo yokwakha ngelona xesha lifutshane linokwenzeka yaye umsebenzi wokwakha kufuphi neendawo zokuhlala uya kwenziwa kuphela ngamaxesho aqhelekileyo asemimi ngeeyure zomsebenzi. Nangona ukuthutha iimpahla nezixhobo zokusebenza ukuya kwisiza kuya kudala ingxolo kwiindawo zokuhlala ezikufuphi ngasezindleleni zokungena, amazanga engxolo akanakuba phezulu ngokwaneleyo ukufuna amanyathelo okunciphisa. Ukuthuthwa koomatshini abanzima zizithuthi ezihamba ngokucutha kakhulu ngenye indlela zingadala iimpembelelo yengxolo ephakathi ngobunzulu kodwa eyexesha elifutshane kwizindlu zokuhlala ezikumgama ophakathi kwe-1 km weendlela. Kukhuthazwa ukuba abahlali banikwe isaziso phambi kokuba naluphi uthutho olunjalo lwenzeke.

Iimpembelelo kwiinkqubo zothutho

Isayithi yaseDuynefontein ayifuni kulungiswa kuya phi kweendlela zothutho ngethuba lolwakhiwo nokusetyenziswa kwe-Nuclear-1, ngokubhekiselele ekudibaneni kweendlela kunye nothutho lwemithwalo enzima. I-Bantamsklip inempembelelo ebalulekileyo kuthutho nethi ibe nemfuneko yokulungiswa ukulungiselela iimeko zongxamiseko zokuhambisa. Ngenxa yendawo ekuyo nekhethekileyo isayithi yase-Bantamsklip, ukuthuthwa kwemithwalo enzima ngendlela kuya kufuna ukulungiswa okumandla kweemeko zothutho, nokuya kuthi kube nempembelelo enkulu kwiindleko. Ngokwembono yezinto eziphilayo, ukwakhiwa kwamalungiselelo okumisa elwandle ukwenzela isikhophe semithwalo enzima eza kwisiza kuchithiwe njengenye indlela yothutho. I-Thyspunt idinga ukulungiswa ngokuphathelele neendlela ngokubhekiselele kuthutho lukawonke-wonke kunye neendlela zokungena ngethuba lolwakhiwo. Oku kulungiswa kukwanefuthe kwiindleko zolwakhiwo lwesikhululo samandla ombane kule sayithi. Kufuneka kuqatshelwe ukuba ingqu ebalulekileyo ukusuka ekupapashweni kwe-EIR eYilwayo yeyokuba indlela yokungena yezithuthi ezinzima ukujikela e-Humansdorp ichongiwe. Ngenxa yeso sizathu izithuthi ezinzima zokwakha ezingena kwisiza sase-Thyspunt akunakufuneka zihambe phakathi kombindi wase-Humansdorp.

Iimpembelelo zenkunkuma yenyukliya nengeyiyo eyenyukliya

Ulawulo lwenkunkuma yokwakha (inkunkuma eqhelekileyo neyingozi kodwa hayi esasaza imitha) nokuthomalalisa iimpembelelo kuya kulandela iinkqubo ezisemgangathweni eziya kuchazwa kwi-Construction Environmental Management Plan.

Uhlaziyo lweziza zenkunkuma ezikufuphi neziza zase-Duynefontein, e-Bantamsklip nase-Thyspunt lubonise ukuba kukho umthamo owaneleyo wokulahla kummandla wezi ziza. Kufuneka kungenwe kwizivumelwano zexesha elide nabalawuli bezi ziza ukufumana isithuba sokulahla. Iithuba elinokuba kho lokuvelisa kwakhona ngenkunkuma yokwakha neyokusebenza (izinto ezingasazi imitha) liya kufuna ukuhlolwa ngocoselelo njengoko inkunkuma esasaza imitha nengasazi imitha kufuneka igcinwe ngokwahlukeneyo. Kwesi sigaba kucingwa ukuba ukwahlukanisa iqhezu elisasazi imitha kucela umngeni yaye kungenza ukuvelisa kwakhona kungasebenzi ngobuchule yaye kubize.

Ulawulo lwenkunkuma esasazi imitha kufuneka kwenziwe ngokwemgangatho emiselweyo yi-International Atomic Energy Agency, elandela eyona nkqubo ilungileyo yezizwe. Isiza seNkunkuma yeNyukliya sase-Vaalputs sinomthamo wokujongana nenkunkuma eyongezelelweyo esasazi imitha yezinga eliphantsi neyazinga eliphakathi eya kuveliswa yi-Nuclear-1 yaye sithathwa njengesiza esikhuselekileyo nesilawulwa kakuhle. Inkunkuma esasazi imitha yezinga eliPhezulu iya kugcinwa kwisiza (njengoko isisiqhelo kwi-KNPS) kude kube indawo yoncedo egunyazisiweyo yokulahla

inkunkuma yezinga eliphezulu iyafumaneka eMzantsi Afrika. Oku akunazo naziphi iingozi, ngokuxhomekeke ekubeni inkunkuma yezibaso ezisebenzileyo igcinwa phakathi kwendawo ekhuselweyo ngokweendlela zolawulo ezamkelwe yi- NNR.

Iingozi empilweni yoluntu

Ngokuxhomekeke ekubeni imida yomthetho yeNNR ithotyelwe, yaye uEskom angabonisa iNNR ukuba uyilo lwe-Nuclear-1 ecetywayo alunakudlula ezi zithintelo ezisemthethweni njengenxalenye yenkqubo yokusebenza yeNNR, ngako kufuneka kungabikho mpembelelo empilweni yoluntu ngexesha eliqhelekileyo lokusebenza. Esi siphumo sixhaswa luhlolo lobulunga bomoya, olufumene ukuba amazanga asemoyeni e-radionuclide angasezantsi kangangokuba kungabikho siphumo empilweni yoluntu.

Iimpembelelo zokusabela kwingxakeko

Ngokwembono yokhuseleko, isiza sicingelwa sisesamkelekileyo ukuba kukho izisombululo zobuchwepheshe kwiingxaki zesiza ezinika isiqinisekiso sokuba i-injini ecetywayo ingakhiwa yaye isebenze ngengozi ephantsi ngokwamkelekileyo kubahlali benqila. Uhlolo lubonisa ukuba zonke iziza ezintathu ziya kuba neempembelelo ezilinganayo ngokubaluleka yaye zonke iziza ezintathu zithathwa njengezamkelekileyo. Ngaphandle koku, isiza sase-Duynefontein singacingelwa singaphantsi kancinci ngokufaneleka kunezinye iziza ezibini ngenxa yabahlali abaninzi abasingqongileyo. Ukuhambelana neemfuno ezintsha ezamkelwe kutshanje ze-European Utility Requirements (ezo isikhululo samandla senyukliya esicetywayo kufuneka sakhawe ngemimiselo yazo), kufuneka ingabikho okanye ibencinci imfuneko yamancedo engxakeko (umz., ukufudusela) ngaphaya kwama-800 m ukusuka kwi-reactor. Indawo yesicwangciso sengxakeko yama-800 m ingabonelelwa ngaphakathi kwepropati kaEskom kuzo zonke iziza ezitshintshanayo.

Ulawulo lwesiza nokungena

Ngokubanzi, iimpembelelo eziya kufunyanwa kuzo zonke iziza ezintathu, ngamaqondo ahlukahlukeneyo, luthintelo lokufikelela koluntu nokhuselo oluphuculweyo lwemekobume phakathi kwemida ebizelweyo.

Yonke impembelelo yothintelo lokufikelela kwisiza ngexesha lokwakha nokusebenza icingelwa iyeyokubaluleka okuphantsi ukuya kokuphakathi ngaphandle kokuthomalalisa kuzo zonke iziza ezintathu. Oku kungenxa yokuba:

- Ukufikelela e-Duynefontein sele kulawulwa kakhulu ngenxa yokuba isiza siphakathi kwemida ekhoyo ye-KNPS. Ngenxa yokusondela kwaso kwi-KNPS, isiza asaziwa siyindawo ebalulekileyo yokufikelela elunxwemeni luluntu ngeli lixa.
- Isiza sase-Bantamsklip sibizelwe ngoku yaye asifikeleleki ngokusemthethweni kuluntu ngokubanzi njengoko siyipropati yabucala kaEskom. Kucingelwa ukuba ufikelelo kwisiza nakwiNdlela u-R43 ebekwe phakathi kwesiza luya kugcinelwa uluntu.
- Isiza sase-Thyspunt sibizelwe ngoku yaye asifikeleleki ngokusemthethweni kuluntu ngokubanzi njengoko siyipropati yabucala kaEskom.

Uphuhliso lwesiza sase-Bantamsklip luya kuba nempembelelo enokuba luncedo ngokubonelela ngolawulo olungqongqo lwabazingeli beembaza abangekho mthethweni.

Transmission Integration

Ukuze umbane oveliswa sisikhululo samandla enyukliya esicetywayo ufumaneka kubathengi bokuwusebenzisa, kufuneka uthonyelwe ukusuka kwi-High Voltage Yard kwisikhululo samandla ngothungelwano lweentambo zothumelo ze-high voltage nangothotho lweentambo zosasazo. Ifilosofi yoyilo lwenkqubo yothumelo kaEskom kukudibanisa isiseko esitsha somthwalo wemveliso kowona mthwalo ukufutshane kangangoko. Emva kokucinga ngemiba eliqela yokudibanisa (umz., ukuthembeka kwenkqubo nobulunga bonikezelo, ukuvelisa okunokwenzeka kwixesha elizayo kwiphondo ngalinye, ubude obufunekayo bentambo neendleko zesakhiwo sokusebenza) kugqitywe kwelokuba:

- Uphuhliso lwesikhululo samandla eMpuma Koloni luya kuba nesiphumo sempucuko enkulu yokusebenza ngokwaneleyo kwenkqubo nesiqinisekiso sokubonelela ummandla wengingqi, njengoko ingenawo umthamo wokuvelisa umthwalo wesiseko;
- Isikhululo samandla esise-Bantamsklip siya kuba noncedo olunganeno, njengoko iintambo zothumelo zama-765 kV kuya kufuneka zihanjiswe kumhlaba ohambeka nzima ngezithuthi, nto leyo iya kuba nesiphumo seendleko ezinkulu ezongezelelweyo kwisiza sase-Bantamsklip; yaye
- Uphuhliso lwesiza sase-Duynefontein luya kuba nesiphumo sokuhlenganisa ukuvelisa kummandla omnye ngokuchasene nokwahlukanisa ukuvelisa kufuphi namaziko amakhulu omthwalo.

Ngako oko, ngokwembono yokudibanisa uthumelo, isiza esithandwayo sesase-Thyspunt.

INDLELA EYA PHAMBILI

I-NNR igunyazisiwe yiNNRA ukuba inikezele ngokhuseleko lwabantu, izinto zabantu kunye nobume bemeko kumonakalo wenyukliya, ngokuthi kusekwe imigangatho yokhuseleko kunye neendlela zolawulo. Ngokubhekiselele kwiCandelo 21 le NNRA, u-Eskom kufuneka angenise isicelo ngokusesikweni selayisenisi yokwenza isikhululo samandla enyukliya, isayithi, ukwakha, ukusebenza, ukususa isidyobho sento enobungozi nokuqhawula isivumelwano sentengo. UMthetho unika ithuba iBhodi yeNNR ukuba ibambe imihlangano kawonke –wonke ngokubhekisele kwimpilo, ukhuseleko nemicimbi yobume bemeko ebhekisele kwisicelo eso.

NgokomGaqo-Siseko weRiphabhliki yoMzantsi Afrika (Umthetho No. 108 yowe-1996) kunye noMthetho oyi- National Environmental Management Act, iDEA inoxanduva lokuhlola impembelelo yesikhululo samandla ombane kubume bemeko. Ukwamkela uxanduva olucacileyo oluntlantlumbini malunga nohlolo lwengozi zokukhupha imitha, iNNR kunye neDEA isayine isivumelwano sentsebenziswano apho ivumayo ukuba iDEA, njengeziphatha- mandla kwimicimbi yobume bemeko, kunye ne NNR ziya kusebenzisana kuhlolo lwemicimbi enxulumene nenyukliya. Malunga noku, iingcaphephe zezifundo zemiba yeradiyoloji zibandakanyiwe kulwazi oluya kuxhasa iDEA ekuthatheni izigqibo.

Le Drafti eHlaziyiweyo ye- EIR isasaziwe ukuze abantu banike izimvo zabo kuzo zonke i-I &AP Inani leendibano zikawonke-wonke ziya kubanjwa ngexesha lokuveza izimvo kwixesha lale Drafti eHlaziyiweyo eyi –EIR Zonke izimvo kolu xwebhu ziya kuqatshelwa ngu Arcus GIBB kwaye iimpendulo kulo ziya kunikezelwa kwingxelo yemiCimbi neNgxelo (IRR) phambi kokungeniswa kweyokuGqibela iEIR kwiDEA ukuze ithathe isigqibo.

Kuyaqikelelwa ukuba iDEAET yaseMpuma Koloni kunye neDEA neDP yaseNtshona Koloni ngokunjalo kunye neNNR (kwamanye amaSebe kaRhulumente) iya kunika izimvo kwiDEA malunga nokufezeka kweEIR yokugqibela kwaye iDEA iya kuziqaphela ezi zimvo phambi kokuba yenze isigqibo malunga nokwamkeleka kweprojekthi yeNyukliya 1. Zonke i- I&AP ziya kwaziswa malunga nokufumaneka kolwazi kanjalo nesigqibo seDEA.

I-DEA igunyazisa isikhululo samandla senyukliya ecetywayo, kufuneka igunyaziswe ngokungqongqo ngokwemiqathango eboniswe kwiEIR eYilwayo eHlaziyiweyo. Ukuba amanye amanyathelo okuthomalalisa afunwayo akaphunyezwa phambi kokuqala ukwakha, njengoko kukhuthaziwe (umz., imiqathango ngokuphathelele kukombiwa kweziza ze-archaeology ne-palaeontology), ngako ke ukwakhiwa kufuneka kungavunyelwa ukuqalisa.

Ukuba naziphi iinguqu eziphathekayo kuyilo lwesikhululo samandla esicetywayo emva kokunikela i-Final EIR kwiDEA ngenjongo yokuthatha isigqibo, uhlolo kwakhona lweempembelelo zokusingqongileyo lungafuneka. Ukuzigqibela ngokuphathelele kwiinkcukacha zobuchwepheshe zesikhululo samandla (njengoko kunikwe iinkcukacha kwiConsistent Dataset – Isihlomelo C) zibalulekile malunga nalo mba. Wakuba umthengisi wesikhululo samandla senyukliya echongiwe, kufuneka kuqinisekise ukuba imiyalelo yesikhululo samandla iyaqhubeka ukuhambelana ne-

Consistent Dataset, esebenze njengesiseko senkqubo yaleEIA. Kukhuthazwa ukuba kufuneka uEskom abonelele ngesiqinisekiso esinjalo kwiDEA kuselixesha phambi kokuqala kokwakhiwa kwesikhululo samandla.