USHWANKATHELO

UmPhandi i-TGS Geophysical Company (UK) (kamva eza kubizwa ngokuba ngu TGS) ufake isicelo sesiGunyaziso seNdalo esiNgqongileyo ukwenzela uhlolo lwe-3D seismic cebu kuhle kuNxweme oluseNtshona eMzantsi Afrika. I-Environmental Impact Management Services (Pty) Ltd (EIMS) iye yachongwa ngumPhandi ukuba ilungiselele ize ithi thaca isicelo se-Environmental Authorisation (EA) ngokwezinto eziyimfuneko ze-Environmental Impact Assessment (EIA) Regulations, ka-2014, ngokohlengahlengiso, ekhuthazwe phantsi koMthetho woLawulo lweNdalo esiNgqongileyo (uMthetho No. 107 ka 1998- NEMA) nezinto eziyimfuneko zoMthetho woPhuhliso lweziMbiwa namaFutha (uMthetho No. 28 ka-2002 – MPRDA).

Le projekthi icetywayo imi phakathi kommandla omalunga ne-120 km cebu kuhle kunxweme lwaseSt Helena Bay, inabe iye ngasentla igudle unxweme lwasentshona ukuya kutsho kuma-230 km cebu kuhle kunxweme lwe-Hondeklip Bay kwinani leebhloko ezinelayisenisi yamafutha. Ummandla esinomdla kuwo wolu hlolo lwe-3D seismic survey lumalunga ne-57 400 km^2 ubukhulu. Kucetywa ukuba kusetyenziswe inqanawa enye yohlolo enezixhobo ze-seismic sources kunye nee-streamers. Uhlolo lwe-3D olucetywayoluza kuxhaswa ziinqanawa ezimbini ezikhaphayo. Uhlolo lwe-3D luza kulandelelana kangangeentsuku ezingamashumi asibhozo (70 days) kuquka nexesha loku miswa kwenqanawe.

Inkqubo yesicelo soHlolo olusisiSeko (Basic Assessment [BA]) iyaqhutywa ukuze ihambisane nesicelo soGunyaziso lwemisebenzi edwelisiweyo ye-EIA Listing Notices engqamene nale projekthi eyile:

- **I-GN983, iSaziso soDweliso 1: Umsebenzi 21(b):** Nawuphina umsebenzi kuquka ukusetyenzwa kwaloo msebenzi okufuna imvume yokwenza uphendlo ngokuvisisana necandelo 74 loMthetho woPhuhliso lweziMbiwa namaFutha, kwakunye nawo nawuphina umsebenzi ofunekayo njengokuba kuboniswe kwiSaziso soDweliso okanye iSaziso soDweliso 3 sika-2014, ofunekayo ukuze kwenziwe loo mvume yoqwalaselo, ngaphandle -

    a) kwalo naluphina uphononongo lwasezikhompyutheni; kunye

    b) nalo naluphina uhlolo ubhabha emoyeni.

INKQUBO YOKUTHATHA INXAXHEBA KAWONKE WONKE

I-PPP yale projethi icetywayo iye yaqhutywa ngokuvisisana nezinto ezifunekayo ze-NEMA EIA Regulations (2014), nangokuvisisana nemigaqo ye-Integrated Environmental Management (IEM). I-IEM ibonisa ukuba kukho inkqubo yokuthatha inxaxheba evulekileyo nengafihlakelanga, apho abo banenxaxheba nezinye ii-I&APs zinikwa ithuba lokuba zithethe oko zikucingayo ngeprojekthi zize ezo zimvo zazo ziqwalaselwe zize ziqukwe njengenxalenye yokuceba yeprojekthi.

Izimvo ezifunyenwe kwii-I&APs ebudeni kwekhwelo lokuqala lokuba kubhaliswe nakwixesha lokuba kuchazwe izimvo sele ebhaliwe kwiNgxelo yeNxaxheba kaWonkewonke (PPR) ku-Appendix 2. Le ngxelo ye-BA iyawkuthi ifumaneke eluntwini ukuze iphononongwe ukususela nge-21 October 2022 ukuya kwi 21 November 2022. Ushwankathelo olukumgangatho ophezulu lwezimvo ezingundoqo kunye nezinto ezixhalabisayo eziye zaphakanyiswa ukuza kuthi ga ngoku zichazwe apha ngezantsi:

- Ifuthe kwimizila yemfuduko okugudle uNxweme lwaseNtshona;
- Ukuchaphazeleka kwexesha elide kwezidalwa zaselwande ukuba olu hlolo lufumana izixhobo zokusebenza ezinokuthi zizixhaphaze;
- Ifuthe kubomi bezidalwa zaselwandle phakathi kwendawo le kwenziwa uhlolokuyo nonxweme kunye nendlela oku okuza kulichaphazela ngayo Ikamva lezokhenketho nezolimo;

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W www.eims.co.za | **E** mail@eims.co.za | **Co Reg** 1992/005927/07| **VAT** 489 013 9027

Directors: L Whitlow, A Smith.

- Ifuthe kutshintsho lwemozulu olunxibelelene neoyile negesi;
- Iziphumo kwezokuloba namazinga okubambisa;
- Ukhuseleko lokutya
- IMvume yangaPhambili nenoLwazi ekhululekileyo kwinkqubo yokuthatha inxaxheba;
- Inkqubo yokuThethana noWonkewonke yinto nje “enguphela sonwabe”;
- Ifuthe kwilifa lezemveli, uqhagamshelwano kwezembali zaselwandle;
- Ukuzimela geqe kwe-EIMS ukuba umfaki-sicelo uhlawulela iinkonzo ezinikelweyo;
- Ubugcisa obubobunye kuhlolo lokunyikima;
- Ifuthe eliqokeleleneyo; kwaye
- Uninzi lwabahlali luhlupheke kakhulu. Kuxhalatyelwe ukuba akuzi kubakho nzuzo zezoqoqosho kubahlali ngenxa yeziphumo ezithe ngqo zolu hlolo.

UHLOLISISO LWEFUTHE

Ingxelo ye-BA ijoliswe ekubeni kufikelelwe oku kulandelayo:

- Kunikelwe uhlolisiso lulonke lwemimandla yezentlalo nezezinto eziphilayo ezichaphazelwa yile projekthi icetywayo.
- Ukufikelela ifuthe elinamathuba okuba libe nefuthe (ngokungqalileyo, ngokungangqalanga nangokuqokelelana, xa kuyimfuneko) ngokunxulumene neprojekthi ecetywayo.
- Ukuchonga nokuncomela imilinganiselo ethethelelayo yefuthe elimandla kwindalo esingqongileyo; kunye
- Nokuqhuba inkqubo equka wonke ubani ngokuzeleyo ukuze kuqinisekiswe ukuba amaQela anoMdla naChaphazelekayo (I&APs) anikwaithuba lokuthatha inxaxheba, kwaye iingxaki nezinto eziwaxhalabisayo zibhalwe phantsi.

Eyona mingcipheko nefuthe elimandla eliye laphawulwa ibilelo liye laphezulu kakhulu ngokokubaluleka kwanasemva kwemilinganiselo yangasemva kokujonga izinto ezithethelelayo eziye zaqwalaselwa. Eli futhe lilandelayo kuye kwafunyaniswa ukuba linamathuba okubangela imiphumo engekho mibi kangako:

- Ifuthe kwindlela yokuziphilisa;
- Ifuthe kumba nakumoya wokuba kwindawo ethile;
- Ifuthe kwilayisenisi yokusebenza yezentlalo;
- Okulindelwe ngabahlali;
- Izixholoxholo kwezentlalo;
- Ukungaqiniseki kwindlela yokujonga izinto kwezentlalo
- Ukuxhalaba ngefuthe lezentlalo lilonke; kunye
- Nokubekewa ecaleni okungakumbi kwamaqela athile.

Kuye kwaqulunqwa imiqathango ezama ukuphepha okanye inciphise ifuthe ngokusekelwe kwigalelo elivela ku Bahloli Bezendalo Abachongiweyo (EAP), ufakano milomo noluntu, nohlolo oluvela kwiingcali. I-EMPr (Appendix 5b) iquka imiqathango neengcebiso ngendlela zokuthethelela le meko ukuze kuphetshwe, kuncitshiswe kuze / okanye kulawulwe ifuthe elibi.

Imiqukumbelo nezincomelo zale BA ziziphumo zohlolo lwefuthe eliphawuliweyo ziingcali, kunye nenkqubo ehambisana nalo yokuthatha inxaxheba kuka wonkewonke. Inkqubo yokuthatha inxaxheba ka wonkewonke iye yanaba kakhulu, kwaye kwenziwe zonke iinzame ukuquka abameli babo bonke abo banenxaxheba kwindawo ekwenziwa uphononongo kuyo. Umqukumbelo oyintloko ovela kwingcali nganye uchazwe apha ngezantsi.

INGXOLO / IZANDI

Imimandla yokwenzakala okunokubakho kwiintlobo zentlanzi ezinesinyi sokuqubha (umzekelo, i-snoek), iifudo namaqanda entlanzi kunye nemibungu yeentlanzi kuqikelelwa ukuba ingaphakathi kwe-180 m ukususka kumthombo woluhlu (umthombo wengxolo). Nangona kunjalo, iintlobo zeentlanzi ezingenazo iibladder zokuqubha zineempembelelo eziphezulu zokwenzakala, kwaye ke ngoko zinezowuni ezincinci zokonzakala okunokwenzeka ngaphakathi kwe-90 m ukususka kumthombo wompu womoya.

Iindawo zokwenzakala okunokubakho kwiintlobo zentlanzi ezinesinyi sokuqubha, amaqanda entlanzi, kunye nemibungu yentlanzi kuqikelelwa ukuba ingaphakathi kwe-30 m ukususka kwimigca yovavanyo ekufutshane kuzo zonke iimeko zokusebenza zovavanyo lweeyure ezingama-24 eziqwalaselwayo. Ukwenzakala okunokuphinda kufumaneke, imimandla yeempembelelo kuqikelelwa ukuba ingaphakathi kwe-80 m ukususka kwimigca yovavanyo ekufutshane yentlanzi enebladder yokuqubha kuyo yonke imizekelo yokusebenza eqwalaselwayo. Intlanzi ngaphandle kwe-swim bladder ayilindelekanga ukuba ihlupheke okanye nayiphi na ingozi enokwenzeka. Imimandla yefuthe lexeshana le-Auditory threshold shift (TTS) kwiintlobo zentlanzi ezinezinyini zokuqubha nezingenazo ziqikelelwa ukuba ingaphakathi kwe-2.9 km ukususka kwimigca yovavanyo ekufutshane malunga neeseneri zokusebenza zovavanyo lweeyure ezingama-24 ezifanelekileyo. Idatha yovavanyo ekhoyo malunga nokwenzakala okunokuphinda kufumaneke kunye neempembelelo ze-TTS kumaqanda entlanzi kunye nemibungu inqabile kwaye akukho zikhokelo zinikiweyo. Nangona kunjalo, ngokusekwe kwindlela ezimeleyo, iimpembelelo zengxolo zilindeleke ukuba zibephakathi kumaqanda entlanzi kunye nemibungu. Impembelelo kulindeleke ukuba ibephantsi kubo bonke kwibala eliphakathi nelikude ukususka kwindawo yomthombo.

Iindawo ezintathu (3) zoluhlu olude lweendawo eziyimizekelo zicetywayo kuvavanyo lwenyikima ye-3D. Umfuziselo umele ukusasazwa kwengxolo kwindawo ecetywayo ye-3D yeenyikima. Indawo engumthombo i-L1 ikufuphi nommandla obuthathaka elwandle (i-Tripp Seamount - ibekwe emantla nangaphandle koMmandla weSicelo), i-L2 imele umndilili wobunzulu bommandla wovavanyo olusemazantsi kwaye i-L3 ibekwe ngokubhekiselele kubume bendawo yamanzi anzulu kwindawo yovavanyo. Njengoko kunokubonwa kumanani econtour ethe tye nathe nkqo, amanqanaba engxolo afunyenweyo kwiindawo ezikude ayahluka kwii-engile ezahlukeneyo kunye nemigama ukususka kwiindawo zomthombo. Oku kulawulwa kwamanqanaba afunyenweyo kubangelwa ukuhlanganiswa kwe-directivity ye-source array, kunye nemiphumo yokusabalalisa okubangelwa yi-bathymetry kunye nokwahluka kweprofayili yesandi. Ngaloo ndlela, kunokutshiwo ukuba amanqanaba esandi awatshintshi ngokulinganayo kumgama othe nkqo nothe tye ukusuka kumthombo ngenxa yokumila komgangatho wolwandle kunye necala lomthombo wengxolo.

Ngokubanzi, iiprofayili zebhathymetry ezinecandelo lokuthambeka okubalulekileyo kuwo wonke ummandla wethambeka lelizwekazi linezandi ezifumana ukuthotywa okubalulekileyo ngenxa yokusebenzisana olomeleleyo phakathi komqondiso wesandi kunye nomhlaba wolwandle. Iiprofayili ze-bathymetry ezinecandelo le-downslope zinesandi esincinci kakhulu. Ezi ziphumo zibonakala kuzo zonke iindawo zeendlela zokusasaza ezisingise kwiindlela zonxweme.

Kuzo zonke iindawo zemithombo nangaphandle kwamacandelo okumathambeka, umahluko wobunzulu bolwandle awubalulekanga ecaleni kwendlela yokusasaza kummandla wamanzi anzulu. Ke ngoko, ulwalathiso lwengxolo efunyenweyo lulawulwa lukhokelo loluhlu lomthombo.

Ngokweempembelelo zokuvezwa ngoko nangoko kwiimpumlo zompu womoya ngamnye, owona mmandla uphezulu wesiphumo se-PTS samafudo aselwandle aqikelelwa ukuba angaphakathi kwe-19 m ukususka kwindawo yomthombo. Kwelinye icala, ezona ndawo zininzi zempembelelo ye-TTS yeefudo zaselwandle ziqikelelwa ukuba zingaphakathi kwe-24 m yoluhlu lwemvelaphi. Ukuphazamiseka kokuziphatha kweemfudo

zaselwandle okubangelwa kukutyhileka ngoko nangoko kwiipulses zomntu ngamnye kuqikelelwa ukuba kuya kuba ngaphakathi kwe-1.3 km yoluhlu lomthombo.

Ngokubhekiselele kwimpembelelo evela ekuvezweni okongezelekayo kwiipulses ezininzi zompu womoya, iimpembelelo zengxolo ezinxulumene nokwenzakala okubuyisekayo kunye ne-TTS kufudo lwaselwandle kulindeleke ukuba lube phezulu kwibala elikufutshane ukusuka kwindawo yomthombo. Ezona ndawo ziphezulu zeempembelelo ze-PTS ziqikelelwa ukuba zisusela ngaphakathi kwe-10 m yoluhlu lomthombo. Ezona ndawo ziphezulu zempembelelo ye-TTS yeefudo zaselwandle ziqikelelwa ukuba zibe ngaphakathi kwe-500 m yoluhlu lwemvelaphi.

Amanyathelo okunciphisa afanelekileyo ayacetyiswa ukunciphisa impembelelo yenyikima kwiintlobo zezilwanyana zaselwandle ezivavanyiweyo:

- Iizowuni zokhuseleko ezicetyiswayo zisekwe kowona mgama uphezulu umiselwe i-PTS (izilwanyana ezincancisayo zaselwandle kunye nofudo lwaselwandle) kunye nokwenzakala okunokwenzeka kokufa (intlanzi) ngenxa yokutyhileka ngoko nangoko kwipulse enye kunye nokutyhileka okongezelekayo okuvela kwiipulses ezininzi.
- Sebenzisa inkqubo yokuqalisa ethambileyo ukuba uvavanya imithombo emininzi yenyikima. Ulibaziseko oluthambileyo xa kurhwetywa iintlanzi ezinkulu zepelagic, ufudo, izinja zolwandle, okanye i-cetaceans zibonwa ngaphakathi kwendawo yempembelelo.
- Imilinganiselo yesiseko yengxolo inokubonelela ngolwazi olululuncedo (phambi kokusebenza) xa kutolikwa uqikelelo lwengxolo engaphantsi kwamanzi ukwaziswa komthombo omtsha wengxolo. Ngolo hlobo, kucetyiswa ukuba imilinganiselo yengxolo yangaphantsi kwamanzi mayiphunyezwe equka ukusasazwa kwezixhobo zokubeka iliso zesandi sangaphantsi kwamanzi ukuseka eyona siseko ngaphambi kokuqalisa kovavanyo kunye namanqanaba okusebenza engxolo ngexesha lovavanyo.

UKUSEBENZELANA KWENDALO YASELWANDLE

UMmandla wesicelo sogunyaziso, umalunga ne- 57 400km^2 ubukhulu, usezinzulwini zamanzi ukusukela kwi ~1500 m ukuya kwi 4 000 m enxwemeni lwase Ntshona Mzantsi Afrika Phakathi kwe Alexander Bay ne Cape Columbine. Umgangatho wolwandle wenziwe ngodaka lwe santi. Nangona iphenjelelwa yi Benguela Current, indawo yesicelo ibekwe kumda osentshona wezisele zokunyusa unxweme. Imimoya iza ikakhulu isuka kumzantsi-mpuma, ngelixa phantse konke ukudumba unyaka wonke kuvela kwicala le-S kunye ne-SSW. Ubuninzi bamanzi olwandle kwindawo yophononongo nguManzi we-Atlantiki akuMbindi waManzi abonakaliswe kukugxilwa kweoksijini ephantsi, ngakumbi kubunzulu. Amanzi aphezu komhlaba kummandla weSicelo seMvume yoNxibelelwano aya kuba nesondlo esihlwempuzekileyo kwaye sicace, kuba ngaphaya kweempembelelo zokunyuselwa konxweme, ngamaxesha onyaka (ngoSeptemba ukuya kuMatshi) iincopho zezondlo ezilindeleke kumda osempuma woMmandla weMvume yoNcedo ngamaxesha okunyusa.

Indawo yeSicelo iwela kuMazantsi-mpuma we-Atlantiki eNzulu yoLwandlekazi lweNdalo. Alukho ulwazi olaneleyo malunga nemeko yokuhlala nokohlukana kwe benthic macrofauna ukusuka kumda weshelufu, iintlobo zeendawo zokuhlala ezingadityaniswanga zaseMzantsi Atlantic kunye nenzonzobila ziye zanikwa umlinganiselo ‘njengezisemngciphekweni onganeno’, okubonisa ubukhulu bezi ndawo zokuhlala kuMmandla woQoqosho oKhethekileyo waseMzantsi Afrika (EEZ). Kuphela ngamacandelo asecaleni komda weshelufu nakwi-Cape Canyon anikwe umlinganiselo ‘njengesesichengeni’ kunye ‘neseMngciphekweni’ (ngaphandle koMmandla weSicelo). Iimpawu zeJoloji yenqaku, kwaye ikufuphi, uMmandla weSicelo yiBhanki yaBantwana emi malunga ne-31°S kunye ne-Tripp Seamount emi malunga ne-29°40'S. Imiwonyo emibini, iCape Canyon kunye neCape Valley nazo zenzeka emazantsi, kodwa ngaphandle kwawo, kuMmandla weMvume yoNxibelelwano. Iimpawu ezinje ngeebhanki kunye neendawo zolwandle zihlala zibamba iikorali zamanzi anzulu kwaye ziqhayisa ngokutyebisa koluntu olunxulunyaniswa nommandla ophantsi, iindawo zokuhlala eziselwandle.

Ngenxa yendawo ekude nonxweme, ubuninzi beplankton kulindeleke ukuba bube sezantsi, kunye neendlela ezinkulu zokuzalisa iintlanzi kunye neendlela ezifudukayo ezenzeka elunxwemeni kwishelufu. Ezona ntlanzi

zibalaseleyo kulo mmandla ziya kubandakanya iintlobo zentlanzi ezinkulu ezifudukayo ezifana netyhuna, i-billfish kunye ne-pelagic sharks. Iintaka zaselwandle ziya kulawulwa zintlobo zepelagic ezifana nealbatross, petrels kunye neshearwaters. Ufudo olufudukayo kwindawo luya kubandakanya i-leatherback kunye ne-loggerhead turtles. Izilwanyana zaselwandle ezinokuthi zenzeke kude nonxweme ziquka iintlobo ngeentlobo zeminenga ye-baleen equka iminenga, i-Antarctic minke, i-fin kunye neminenga ye-sei. Iminenga enamazinyo iya kuquka i-sperm whale ne killer whale, kwakunye neentlobo ngeentlobo zeminenga enomlomo namahlengesi. Zintandathu iiNdawo zaseLwandle eziKhuselweyo (ii-MPAs) kummandla weprojekthi ngokubanzi kodwa akukho nanye ewela kuMmandla weMvume yoNxibelelwano. Indawo yeSicelo imi kude nonxweme kwezi MPAs. Kukho ukudityaniswa okuthile koMmandla weMvume yoQoqosho kunye noLwandle oluOrenji kunye neCanyon Complex ngokweEkholoji kunye neeNdawo eziBalulekileyo ngokweBhayoloji (EBSAs). Iindawo ezibalulekileyo zezityalo nezilwanyana (ii-CBAs) phakathi kommandla weMvume yoKwazisa zibandakanya zombini i-CBA1 (yendalo) kunye ne-CBA2 (imimandla yendalo), kunye necandelo elincinane le-CBA2 (ukubuyisela) elibekwe emantla.

Iimpembelelo ezinokuthi zibe kho kwizilwanyana zaselwandle njengesiphumo sokufunyanwa kwenyikima ye-3D ecetywayo ziquka:

- Ukwenzakala ngokwasemzimbeni kunye/okanye ukufa;
- Ukuphepha indlela yokuziphatha;
- Ukuncipha kwempumelelo yokuzala/ukuzala;
- Ukuvalwa kwezandi zokusingqongileyo kunye nonxibelelwano;
- Ukungqubana kwamafudo/izilwanyana ezanyisayo zaselwandle kunye novavanyo kunye nenqanawa ezixhasayo okanye ukubanjiswa kwizixhobo ezirhuqwayo zeacoustic; kwaye
- Iimpembelelo ezingathanga ngqo kwizilo ezizingelayo ngenxa yeempembelelo zenyikima kwiintlobo zamaxhoba.
- Obona buzaza buphezulu ekuphenduleni kuphando olucetywayo lwe-3D zezi:
- Iminenga eyihumpback, efuduka kwindawo phakathi kukaJuni noNovemba (ibandakanyiwe);
- Iminenga yamasperm, iminenga enemilomo kunye nezinye ii-odontocetes ezixhaphake kumanzi akude nonxweme;
- Iintlanzi ezinkulu ezifudukayo zepelagic kunye neentlobo zokrebe ezibonisa unxulumano lwamaxesha onyaka ne-Child's Bank kunye ne-Tripp Seamount;
- Ufudo oluluqilima oluhlala kumanzi akude nonxweme ngamanani aphantsi kwaye luqokelelana kulwandle ukuze lutye ijellyfish; kwaye
- Iintlobo ezahlukeneyo ze-pelagic Albatross, iPetrel, iStorm Petrel kunye neentlobo zeShearwater.

Ukuba zonke izikhokelo zokusingqongileyo, kunye namanyathelo okunciphisa afanelekileyo acetyiswayo kule ngxelo aphunyeziwe, akukho sizathu sokuba kutheni le nkqubo yovavanyo lwenyikima ecetywayo ingaqhubeki. Kufuneka kwakhona kukhunjulwe ukuba ezinye zeentlobo zezilwanyana ezifudukayo ngoku zikho unyaka wonke kuNxweme oluseNtshona, kwaye iminenga ethile ye-baleen kunye namazinyo ihlala kunye/okanye ibonisa ixesha lonyaka elichasene noninzi lweminenga ye-baleen. Idatha eqokelelwe ngabakhi-mkhanyo abazimeleyo abazimeleyo kufuneka ibe yinxalenye yovavanyo lwengxelo esondeleleneyo eza kuthunyelwa kwabasemagunyeni abayimfuneko, kwaye nayiphi na idatha yezehlo kunye nedatha yeziphumo zenyikima evela kuphando kufuneka yenziwe ifumaneke ukuze kuhlalutywe iimpembelelo zophando kumanzi aseMazantsi e-Afrika.

UHLOLO LWEZOKULOBA

Iimpembelelo ezinokuba kho zenkqubo yovavanyo lwenyikima kushishino lokuloba zinxulumene noku:

- Ukukhutshwa kwemikhumbi yokuloba ekufikeleleni kwiindawo zokuloba;
- ifuthe kumazinga okubanjisiweyo ngenxa yokwanda kwamazinga engxolo anxulumene nomsebenzi wophando lwenyikima;
- ilahleko ngempazamo isixhobo ukusuka kuluhlu lwesaveyi; kwaye
- ukukhululwa ngengozi kwedizili yaselwandle elwandle.

Phantsi kweNgqungquthela yeMithetho yaMazwe ngaMazwe yokuThintela ukungqubana eLwandle (COLREGS, 1972, Part A, Rule 10), inqanawa yokuhlola inyikima nesenza uphando ichazwa “njengenqanawa elinganiselwe kubuchule bawo bokuhamba” efuna loo mandla. -Iinqanawa eziqhutywayo nezihamba ngeeseyile zivumela inqanawa ukuba ingakwazi ukuyilawula. Ngaphaya koko, phantsi kwe-Marine Traffic Act, 1981 (Nombolo yesi-2 ka-1981), inqanawa esetyenziselwa injongo yokuxhaphaza ezantsi elwandle iwela phantsi kwenkcazelo “yofakelo lwaselwandle” kwaye ngenxa yoko ikhuselwe yindawo yokhuseleko eyi-500m. Kulityala ukuba inqanawa engagunyaziswanga ingene kwindawo yokhuseleko. Ukongeza kwindawo yokhuseleko eyi-500 m ngokomthetho, unokontraka wenyikima uya kucela umda wokusebenza okhuselekileyo (ongaphezulu kwe-500 m zone yokhuseleko) angathanda ukuba ezinye iinqanawa zihlale ngaphaya kwazo. Ucociso lokhuseleko kuphando lwenyikima ludla ngokuba yi-6 Nm ngaphambili nangasentshona kunye ne-2 Nm kulo naliphi na icala lenqanawa yovavanyo, okukhokelela ekubeni kukhutshelwe ngaphandle indawo emalunga ne-165 km^2 ukujikeleza inqanawa yovavanyo.

Ukukhutshelwa ngaphandle okwexeshana kwamashishini okuloba kwindawo yokhuseleko kunokunciphisa ukufikelela kwiindawo zokuloba, nto leyo enokuthi ibe nesiphumo sokuphulukana nokubanjiswa kunye/okanye ukugxothwa kweenzame zokuloba (impembelelo engalunganga ngqo). Indawo yokhuseleko iya kuphunyezwa malunga nenqanawa yenyikima ngexesha leprojekthi, okukhokelela kwimpembelelo ekhawulezileyo eya kuhlala ixesha lovavanyo olucetywayo (~iintsuku ezingama-70). Impembelelo yokungabandakanywa kumhlaba wokuloba iye yavavanywa kwicandelo ngalinye lokuloba ngokusekwe kuhlobo lwezixhobo ezisetyenzisiweyo kunye nokuba kufutshane kweendawo zokuloba xa kuthelekiswa nommandla weMvume yoKwayelelwa. Ngokuphunyezwa kolawulo lweprojekthi kunye nemilinganiselo yokunciphisa, intsalela yempembelelo yovavanyo olucetywayo ibaluleke ENGAPHANSI EZINGAMBI kumacandelo amakhulu e-pelagic kunye ne-tuna pole-line. Akukho mpembelelo ilindelekileyo kwi-demersal trawl, i-midwater trawl, i-demersal longline, i-pelagic purse-seine encinci, i-linefish, i-west coast rock lobster, i-netfish kunye namacandelo abalobi abakhasayo.

Impembelelo kumazinga okubanjisiweyo ngenxa yokuphakama komgangatho wesandi iye yavavanywa kunye nobuntununtunu/nobuthathaka umahluko phakathi kweentlobo zentlanzi ekujoliswe kuzo ezichongiweyo kwicandelo ngalinye. Isandi esiveliswe ngexesha lesaveyi yenyikima ecetywayo kulindeleke ukuba ibe kulandelelwano lwe-255 dB re 1 µPa kwi-1 m kuluhlu lwamaza okusebenza angama-5 – 300 Hz. Oku kuwela phakathi koluhlu lokuva lweentlobo ezininzi zeentlanzi. Uphononongo oluvakalayo lwelahleko yothumelo lothumelo (SLR 2021) luchonge iindawo eziqikelelweyo zempembelelo yeentlobo zentlanzi (phakathi kwezinye iintlobo zezilwanyana zaselwandle ezixhalabileyo) ngokusekwe kwindlela yovavanyo lwempembelelo yengxolo efanelekileyo. Iziphumo zengxolo ezivavanyiweyo ziquka iziphumo ze-physiological (PTS) kunye ne-TTS) kunye nokuphazamiseka kokuziphatha ngenxa yempembelelo ekhawulezileyo evela kwi-airgun pulses enye okanye iziphumo ezikhulayo zokuvezwa kwii-airgun pulses ezininzi kwixesha leeyure ze-24. Ngokusekelwe kwinkcazo yeprojekthi yangoku, amanqanaba esandi kuphando lwenyikima anokulindeleka ukuba athothe abe ngaphantsi kwamanqanaba okuphazamiseka kokuziphatha kumgama oyi-4 km ukusuka kumthombo. Ubungakanani besithuba sempembelelo yesandi (eveliswe luluhlu lwemipu yomoya) kumazinga okubambisa kulindeleke ukuba ibe yengingqi, nangona ibekwe kwindawo nangaliphi na ixesha. Impembelelo ithathwa njengeyexesha langoku kwaye inokubuyiselwa umva ngaphandle kwexesha elongezelelweyo okanye iindleko. Ngokusekwe kumgama weendawo zokuloba ukusuka kwindawo yeMvume yoFundo, kuphela ipelagic enkulu kunye necandelo letuna pole-line athathwa njengasechengeni kwiziphumo zesandi esiphakamileyo. Ngokuphunyezwa kolawulo lweprojekthi kunye nemilinganiselo yokunciphisa, impembelelo eshiyekileyo ngenxa yengxolo yenyikima ithathwa njengokubaluleka OKUPHANTSI OKUNGENZIYO. Akukho mpembelelo ilindelekileyo kwi-demersal

trawl, i-midwater trawl, i-demersal longline, i-pelagic purse-seine encinci, i-linefish, i-west coast rock lobster, i-netfish kunye namacandelo abalobi abakhasayo.

Ukuze kuncitshiswe iimpembelelo kwicandelo elikhulu lomzila omde wepelagic, kucetyiswa ukuba uvavanyo luphephe ukwenzeka ngo June nango July. Ngaphambi kokuqala kwemisebenzi yovavanyo, amaqela achaphazelekayo kufuneka aziswe ngolungelelwaniso lokuhamba lwendawo ecetywayo yokufumana isaveyi, ixesha kunye nobude bemisebenzi ecetywayo kunye nazo naziphi na iziphumo ezinxulumene nommandla wokhuseleko onokuthi ucelwe, kunye neentshukumo. yemikhumbi yenkxaso enxulumene neprojekthi. Imibutho efanelekileyo yokuloba ibandakanya iFishSA, iSA Tuna Association, iSA Tuna Longline Association kunye neFresh Tuna Exporters Association.

Abanye abachaphazelekayo abaphambili kufuneka baziswe phambi kokuba kuqalwe naxa kugqitywe uphando. Ezi ziquka; ISebe lezamaHlathi, lezokuLoba nokusiNgqongileyo (i-DFFE), i-Ofisi ye-Navy Hydrographic yaseMzantsi Afrika (i-SANHO), uMbutho woKhuseleko lwaseLwandle loMzantsi Afrika (i-SAMSA) kunye nooGunyaziwe bamaZibuko. Ngexesha lovavanyo, isilumkiso sokuhamba ngenqanawa kufuneka sisasazwe kuzo zonke iinqanawa ngeNavigational Telex (Navtext) kunye nonomathotholo waseKapa. Ukongeza, kucetyiswa ukuba uhlaziyo lwesicwangciso sovavanyo olucwangcisiweyo lweveki kufuneka sisasazwe kubasebenzisi beenqanawa zokuloba ezichaphazelekayo yonke imihla. IGosa loNxibelelwano lwezokuLoba (i-FLO) kufuneka libekho kwinqanawa yenyikima okanye inqanawa yokukhapha ngexesha lovavanyo ukuze kuququzelelwe unxibelelwano phakathi kweenqanawa zenyikima kunye nokuloba kwindawo yeprojekthi.

Luluvo oluqiqiweyo lwengcaphephe ukuba imisebenzi yoqwalaselo inokugunyaziswa, ngokuxhomekeke ekuphunyezweni kwamanyathelo okunciphisa acetywayo.

UHLOLO LWAMAFA

Uphononongo lwezenzululwazi oluqhutyelwe le projekthi luchonge iimpembelelo zokuloba ziphantsi kuzo zonke iintlobo zeentlanzi. Ngokuthelekelela, impembelelo enokubakho (nangona iphantsi) kwisivuno sokuloba inokulindelwa kwaye ngaloo ndlela impembelelo yezoqoqosho enokubakho kuluntu ngenxa yokuncipha komthamo wentlanzi ebanjisiweyo. Amanyathelo okuthomalalisa acetyiswayo, njengoko adweliswe kwiingxelo zeengcali zeprojekthi, agxininisa ekuncitshisweni kweempembelelo zeentlobo zentlanzi kunye nokunciphisa okuqikelelwayo kwempembelelo kwisivuno sorhwebo nabalobi abakhasayo. La manyathelo okunciphisa kufuneka ke ngoko abe neempembelelo ezingalunganga ezinokubakho kwilifa lenkcubeko yoluntu oluza kuchatshazelwa.

Ilifa lenkcubeko kunye nelifa lemveli eliphilayo elinxulumene noluntu olunxulunyaniswa namashishini okuloba kunye nokuphila elwandle kunye nokuchonga ngakumbi njengoluntu lwemveli kunokuchatshazelwa yiprojekthi ecetywayo. Impembelelo engalunganga yangaphambi kokunciphisa kwisikali sommandla kwixesha elide elinobungangamsha obuphakathi ngenxa yempembelelo engathanga ngqo enokubakho kuluntu kwaye, ekugqibeleni, ilifa lelifa labo, okunokwenzeka okukhulu kokuchaphazeleka. Impembelelo yangaphambili yokunciphisa izibonelelo zelifa lemveli inikwe umlinganiselo NJENGEPHAKATHI. Impembelelo enokubakho eshiyekileyo kwizibonelelo zelifa lemveli, kunye namanyathelo okunciphisa asuka kwizifundo zenzululwazi, kuqikelelwa ukuba EZINGAPHANTSI ngokuzithemba okuphakathi.

Ithathela ingqalelo uvavanyo olusekwe kwiziphumo zomsebenzi owenziweyo kunye nezifundo zenzululwazi ezinxulumene nefuthe kushishino lokuloba, ingcaphephe inoluvo lokuba impembelelo yeprojekthi ecetywayo kwimithombo yelifa lemveli inokuthotywa ngokuphunyezwa kwezindululo. kule ngxelo.

UHLOLO LWENTLALONTLE

Imisebenzi ye-TGS yesi sicelo iya kuba yeyexesha elifutshane ukuba yamkelwe, kwaye ukuba ijongwa yodwa kuqwalaselwa kuphela imingcipheko yobugcisa njengoko kuxoxwe ngayo kwiingxelo ezahlukeneyo zeengcali eziqhutywe njengenxalenye yenkqubo ye-EIA, ifuthe liphantsi kakhulu. Nangona kunjalo, uluntu lunoluvo lokuba kukho izikhewu ezibalulekileyo kwidatha ekhoyo kwaye ngokwembono yentlalo imingcipheko engeyiyo eyezobugcisa okanye yezentlalo inokubangela iimpembelelo ezibalulekileyo. Nangona iingcali zezilwanyana

zaselwandle kunye namashishini okuloba zibonise ukuba iimpembelelo kwizilwanyana zaselwandle ziyawkuthi zinciphe, uluntu, kunye nezizukulwana zamava elwandle, banoloyiko lokuba indlela yokuziphatha kweentlanzi iya kutshintsha kwaye oku kuya kuchaphazela amazinga abo okubambisa kwaye ngenxa yoko, ubomi babo. Oko kubonwa njengempembelelo encinci kwi-ecosystem enkulu kunokuba namava njengempembelelo enkulu yomntu. Izilwanyana zaselwandle zisenokungachaphazeleki kakhulu, kodwa uluntu oluphila ngokuloba lunoloyiko lokuba izilo zaselwandle zinokutshintsha indlela yokuziphatha kwazo kwaye oko kuyeyona nto ixhalabisayo ngokwembono yentlalo.

Enye inkxalabo yimpembelelo eyongezelekayo yemisebenzi eyenziwa elwandle apho olu luntu luphila khona. Uloyiko lwabo malunga nencam apho umthombo wabo wokuziphilisa ungabuyi kuzo zonke izinto ezenziwa elwandle, kwaye abasakwazi ukuziphilisa njengoluntu olulobayo kufuneka luqwalaselwe. Ngoku olu luntu luyakwazi ukuziphilisa, nangona kunzima. Uluntu aluchasananga nophuhliso, kodwa lufuna ukuyibona isenzeka ngendlela ezinzileyo nengawubeki esichengeni umthombo wabo wokuphila. Sele beyibonile indlela ubomi babo obuchatshazelwa ngayo yimigodi eqhubeka elwandle, ungcoliseko, ukutshintsha kwemozulu, ukuloba ngokugqithisileyo kunye namashishini afana nemizi-mveliso efika iphinde ihambe kwaye isoloko ingahambi ngendlela enoxanduva loluntu.

I-TGS, kunye nezinye iinkampani ezifuna ukwenza uphando okanye uphononongo kwindawo, okwangoku azinalayisenisi yentlalontle yokusebenza. Inxalenye enkulu yoku kungenxa yokunqongophala kokubonisana okunentsingiselo ngabafaki-zicelo bangaphambili ngokwembono yoluntu. Ukuba i-TGS okanye nayiphi na enye inkampani yesaveyi yenyikima ifuna ukuqhubela phambili neprojekthi, kuya kufuneka izibandakanye kwincoko enentsingiselo noluntu kwaye izame ukubuyisela ubudlelwane. Ukusuka kuluntu kunye nembono yomngcipheko wentlalo oku akuxoxiswana.

Iiprojekthi zokuphinda ziqwalaselwe iinyikima eMzantsi Afrika zisoloko zisematheni kulo nyaka uphelileyo. Kuninzi lwabathathi-nxaxheba ngumba weemvakalelo, kwabanye amandla okuba nefuthe kubomi babo lolona loyiko lukhulu. Kukwakho nabachaphazelekayo abavakalelwa kukuba ukuphononongwa kwamafutha efosili akuhambisani nophuhliso oluzinzileyo kunye nokulwa nokutshintsha kwemozulu. Abanye abachaphazelekayo bavakalelwa kukuba kunyanzelekile ukuba ukukhula nophuhliso loqoqosho loMzantsi Afrika bazibandakanye kolu phando.

Ngokwembono yentlalo kucacile ukuba uluntu kunye noninzi lwabantu basekuhlaleni bayayichasa le projekthi. Ukuba iprojekthi ijongwa yodwa, iimpembelelo azinamsebenzi. Nangona kunjalo, iprojekthi ayenzeki kwindawo engenanto, kwaye indawo yentlalo ibanzi kakhulu kuneyona ndawo yeprojekthi. Ukuba imingcipheko yentlalo kunye nomonakalo onokwenzeka kumalungelo enkcubeko nawemveli athathwa njengempembelelo kwintlalo yoluntu esele isesichengeni inokuba lukhulu. Kweli nqanaba uluntu luvakalelwa kukuba alunakukwazi ukwenza izigqibo ezizizo. Nangona zonke iinkqubo zomthetho zilandelwe, ushishino lwesaveyi yenyikima aluhambi ngesantya soluntu, kwaye ekuhambeni kwexesha oku kuya kuba yingozi kwishishini. Iinzuzo ezinokwenzeka kwixesha elizayo kunye nophuhliso loqoqosho lwelizwe ukuba ngaba uphando lufumene naziphi na izibonelelo ezibalulekileyo aziphikiswani. Ngokwembono yentlalo kucetyiswa ukuba iprojekthi iqhube ngokuxhomekeke kumanyathelo okunciphisa (uthethwano olunentsingiselo, uphando lwendawo, imfundo, kunye nokwazisa uluntu kuluntu oluchatshazelwe yiprojekthi) ukwenza inxalenye yeemeko zokugunyaziswa kunye nokuphunyezwa ngaphambi kokuqaliswa. yolona phando.

ISIBHENGEZO SEFUTHE

Izinto ezifunyanisweyo kuphando lweengcali zigqiba kwelokuba akukho zingozi zibulalayo kwindalo esingqongileyo ezimele zithinteleukuba le projekthi ingaqhubeki, lo gama nje kunconyelwa ukuba kubekho imilinganiselo ethethelelayo nelawulayo esetyenziswayo. Ngokusekelwe kwindlela eyiyo nobungakanani bayo le projekthi, izinga lokuphazamiseka elilindelekileyo ngenxa yemisebenzi yokuhlola, izinto ezifunyaniswe ziingcali, kunye nokuqonda ukubaluleka kwefuthe kwindawo esingqongileyo, i-EIA project team ibona ukuba ikunye ne-EAP libalulekile izinga lezinto ezilifuthe elibi eziliqele ngoku jikele ezingathi zincitshiwe zibe kwizinga elamkeleyo ngokusebenzisa izinto ezinconyelwayo kwaye iprojekthi ifanele igunyaziswe.

Azinye izinto ezithethelelayo zidweliswe apha ngezantsi (iinkcukacha zinikelwe apha kwi Section 11 lale ngxelo):

- Iplani yo hlolo lonyikimo maluphephe iindawo ezinochuku ukwenzela izidalwa eziphila elwandle; ukuhamba kwe ceteaceans(ikakhuli I baleen whales) zange zantsi kwindawo zokutya ukuya kumanzi asezantsi ((June/July and late October/November), kunye namaxesha okuty ehlotyeni phakathi kwe St Helena Bay ne Dassen Island ekupheleni kuka October uyotsho ekupheleni kuka December, kunqinisekiswe ukuba indlela zofuduko azivalwa luphando lwe seismic survey. Ukuba kuyenzeka, uphanda maluqale emantla luphele ezantsi ukuphepha ezingxaki zokondla.
- Nangona inqanawa yonyikimo kunye nempahlayaho zingadlula kwiMarine Protected Area, kwimithombo yezolwande kwaye akumele oku kusebenze ngeli xesha lokuxaxeka;
- Ukuqiniseksia ukuba iinqanawa zifakwe i-Passive Acoustic Monitoring (PAM) technology, ethi ikhangele izilwanyana ezithile ngezandi zazo;
- Ukuchaza nokubethelela ukuba kusetyenziswe ezona zandi zisezantsi ngokusengqiqweni zohlolo lonyikimo, kuze kuyilwe eyona isemagqabni indlela yokunciphisa ingxolo eya emacaleni kunye nokuciphisa amaze esingqi sonyikimo;
- Qinisekisa ukuba izinto ezitsalwayo ‘ezivanayo namafudo’ ziyasetyenziswa ziikontraka zohlolo okanye zizinto ezitsalwayo ezikhoyo ezifakwe into yokujonga okanye ukubhekelisa ‘amafudo agadiweyo’’
- Ukuqinisekisa ukuba izinto eziqinileyo ziyasetyenziswa endaweni yezithambileyo ukuphepha ukuvuza;
- Kwenziwe amalungiselelo okuba kubekwe i Marine Mammal Observers (MMOs) ezifanelekayo kwinqanawa yohlolo;
- Ukulondoloza ukugadwa kwemizuzu engama-60 ngaphambi kwaso nasiphina isiganeko somthombo wovavanyo. Ukuba nje kungakho Amandla angawona aphantsi xa kuhlolwa,ixesha lokubukela lingancitshiswa kangangemizuzu engama-30;
- Ukusebenzisa inkqubo “yokuqala kancinci” kwiindawo ezithile okanye kwimithombo yohlolo olwahlukahlukeneyo;
- Ukusetyenzsiwa kwe MMO ne PAM efunekayo yokubukela imizuzu engama-60 (ukuze kwamkelwe iintlobo zezidalwa ezingena nzulu emanzini ezingaphezu kwe 200 m);
- Ukuphelisa imithombo yokubukela kunye nokukhangela ii-penguins okanye iintaka zolwandle ezingena enzulwini, amafudo, iintlanzi ezinkulu esidada zichotha (kuquka ii-whale sharks, i-basking sharks, i-manta rays okanye ii-cetaceans phakath kwiizowuni ze-500 m;
- Ukuphelisa imithombo yonyikimo ejonga ukufa okanye ukonzakal kwe cetaceans, amafudo, ii-seals okanye ukufa kwenqwaba yee- squid neentlanzi (ingakumbi ii-shoals ze-tuna okanye ukurhubuluza kweentlobo zezidalwe ezincine zee sardine, i-anchovy ne-mackerel) xa kuqikelelwa iMMO ukuba sisiphumo esithe ngqo sohlolo;
- Ukuphepha ukusebenza ebudeni buka, June no July ukuze kuphetshwe ixesha ekuxakekwe ngalo ekulobeni kumacandelo okuloba amade;
- Ngaphabi kokuqalisa uhlolo abanenxaxebha nabachaphazelekayo bamele kuthethwe nabo baze baziswe ngesicwangciso sohlolo;
- I- Fisheries Liaison Officer (FLO) enamava ifanele ibekwe phaya kwinqanawa ehlolayo ukuze kudityaniswe neenqanawa zokuloboa kwindawo apho kwenziwa uhlolo khona;
- Yazisa nayiphina inqanawa elobayo kwizinga le radar le 12 nm ukususela kwinqanawa yohlolo ngerediyo ngokuphathelele izinto zokhuseleko ezifunekayo ngakuloo nqanawa;
- Ukufaka indlela yokufaka izikhalazo xa kungenzeka kubakho ukuphazamiseka kwindlela yokuloba;

- Ukuhlola emva kweprojekthi, iziphumo kubantu abachongiweyo kunye nezinto ezingabonakaliyo ezingabambekiyo zenkcubeko kunye nomonakalo wezoqoqosho nokulahlekelwa, kunye nefuthe lophuhliso lwabantu. Ngokusekelwe kwiziwphumo, kubonelelwe ubuncwane nenkxaso kubahlali ukuze kuphuhliswe kuze kubekho iindlela zokhuselo neeplani zokuhambiselaphambili ukuba ilifa lenkcubeko ngokuqhuba iingxoxo ukuqondona nokuxolelisana phakathi kwabahlali. Ezi zinto zingenzeka xa kunokuthi kwenziwe ngokwemiqathango ye Social Impact Assessment.
- UmPhandi ufanele aphuhlise iprotokholi yokuthetha nabahlali ngokusekelwe kwi-San Code of Research Ethics. Oku kufanele kuquka unxibelelwano namagqinga neendlela zezikhalazo.
- UmPhandi ufanele afake isandla kuphando lokuzimela kwindlela yaseluNxwemeni lwaseNtshona efana nentlanzi ye- snoek yokusabela kuhlolo. uTGS uyawukuthi aqhagamshelane nabaphandi babucala abazawkujonga isimo zamanzi olwandle ngexesha kwenziwa isurvey.
- Uphando lwengxolo esisiseko lungancedisa (phambi kwe survey) ekuqondeni ngcono ingxolo yangaphatsi kwamanzi xa kuzawkubakho umthombo omtsha wengxolo. Kungoko kucebiswa kwenziwe oluphando lwengxolo, elinothi liquke ukusetyenziswa kwezixhobo zokuqikelela ubungakani bengxolo phambi kokuba kuqaliswe nge survey naxa kusenziwa isurvey.
- Ukufakana imilomo nabahlali ngeendlela zokuthi kufakwe igalelo kubahlali.