
A.L. 346 tal-2011**ATT DWAR L-AMBJENT U L-IPPJANAR TAL-IŻVILUPP
(KAP. 504)****ATT DWAR L-AWTORITÀ TA' MALTA DWAR IR-RIŻORSI
(KAP. 423)****ATT DWAR L-IBHRA TERRITORJALI U Ż-ŻONA
KONTIGWA
(KAP. 226)****ATT DWAR IL-BLATA KONTINENTALI
(KAP. 194)****Regolamenti tal-2011 dwar il-Ħzin Ġeoloġiku tad-Dijossidu
tal-Karbonju.**

BIS-SAHHA tas-setgħat mogħtija bl-artikolu 28 (1) tal-Att dwar l-Awtorità ta' Malta dwar ir-Riżorsi, bl-artikoli 3 (2), 4, 7 (1) tal-Att dwar l-Ibhra Territorjali u ż-Żona Kontigwa, bl-artikolu 3 tal-Att dwar il-Blata Kontinentali, bl-artikolu 28 (1) tal-Att dwar l-Awtorità ta' Malta dwar ir-Riżorsi, bl-artikoli 2, 8, 61, 64 u 66 tal-Att dwar l-Ambjent u l-Ippjanar tal-Iżvilupp, il-Prim Ministru flimkien mal-Ministru tar-Riżorsi u l-Affarijiet Rurali, wara konsultazzjoni mal-Awtorità ta' Malta dwar l-Ambjent u l-Ippjanar u l-Awtorità ta' Malta dwar ir-Riżorsi, għamlu dawn ir-regolamenti li ġejjin:

1. (1) It-titolu ta' dawn ir-regolamenti hu Regolamenti tal-2011 dwar il-Ħzin Ġeoloġiku tad-Dijossidu tal-Karbonju.

Titolu, skop u bidu
fis-sehh.

(2) Dawn ir-regolamenti jitttrasponu Direttiva 2009/31/KE dwar il-ħzin ġeoloġiku tad-dijossidu tal-karbonju u li temenda d-Direttiva tal-Kunsill 85/337/KEE, u d-Direttivi tal-Parlament Ewropew u tal-Kunsill 2000/60/KE, 2001/80/KE, 2004/35/KE, 2006/12/KE, 2008/1/KE u r-Regolament (KE) Nru 1013/2006.

(3) L-iskop ta' dawn ir-regolamenti hu li jstabilixxu struttura legali għall-ħzin ġeoloġiku mingħajr ħsara għall-ambjent tad-dijossidu tal-karbonju (CO₂) biex jikkontribwixxi għall-ġlieda

kontra t-tibdil fil-klima. L-iskop tal-ħżin ġeoloġiku mingħajr ħsara għall-ambjent tas-CO₂ huwa l-ġbir permanenti tas-CO₂ b'dak il-mod li jipprevjeni u, meta dan ma jkunx possibbli, jelimina kemm jista' jkun l-effetti negattivi u kull riskju għall-ambjent u għas-saħħa tal-bniedem.

(4) Dawn ir-regolamenti għandhom jidhlu fis-seħħ fid-29 ta' Awissu, 2011.

Applikabbiltà.

2. (1) Dawn ir-regolamenti għandhom japplikaw għall-ħżin ġeoloġiku tas-CO₂ f' Malta, u fil- Blata Kontinentali fit-tifsira tal-Konvenzjoni tan-Nazzjonijiet Uniti dwar id-Dritt tal-Baħar (UNCLOS).

(2) Dawn ir-regolamenti m'għandhomx japplikaw għall-ħżin ġeoloġiku tas-CO₂ bi ħżin totali maħsub ta' inqas minn 100 kilo tunnellata, li jsir għar-riċerka, għall-iżvilupp jew għall-ittestjar ta' prodotti jew proċessi ġodda.

(3) Il-ħżin tas-CO₂ f'sit tal-ħżin b'kumpless għall-ħżin li jestendi lil hinn miż-żona msemmija fis-subregolament (1) m'għandux ikun permess.

(4) Il-ħżin tas-CO₂ fil-kolonna tal-ilma m'għandux ikun permess.

Tifsir.

3. (1) Kemm-il darba ma jiġix stabbilit mod ieħor f'dawn ir-regolamenti, għandhom japplikaw it-tifsiriet fl-Att.

(2) F'dawn ir-regolamenti, kemm-il darba r-rabta tal-kliem ma tkunx teħtieġ xort'ohra:-

“l-Att” tfisser l-Att dwar l-Awtorità ta' Malta dwar ir-Riżorsi;

“l-Awtorità Kompetenti” tfisser l-Uffiċju tal-Prim Ministru, u kull korp ieħor jew persuna li l-Prim Ministru jista' jistabbilixxi u jinnomina bħala l-Awtorità Kompetenti għal finijiet differenti skont dispożizzjonijiet differenti ta' dawn ir-regolamenti;

“l-Awtorità ta' Malta dwar l-Ambjent u l-Ippjanar” tfisser l-Awtorità ta' Malta dwar l-Ambjent u l-Ippjanar kif imwaqqfa bl-artikolu 6 tal-Att tal-2010 dwar l-Ambjent u l-Ippjanar tal-Iżvilupp;

“bidla sostanzjali” tfisser kull bidla mhux prevista fil-permess għall-ħżin li jista’ jkollha effetti sinifikanti fuq l-ambjent jew fuq is-saħħa tal-bniedem;

“esplorazzjoni” tfisser il-valutazzjoni ta’ kumplessi tal-ħżin potenzjali għall-finijiet ta’ ħżin ġeoloġiku tas-CO₂ permezz ta’ attivitajiet li jidhlu fis-sottostrat bħal tħaffir biex jinkiseb tagħrif ġeoloġiku dwar l-istrata fil-kumpless tal-ħżin potenzjali u, jekk ikun il-każ, it-twettiq ta’ testijiet tal-injezzjoni biex jiġi karatterizzat is-sit għall-ħżin;

“formazzjoni ġeoloġika” tfisser suddivizjoni litostratigrafika li fiha jistgħu jinstabu u jiġu indikati strati ta’ blat distinti;

“formazzjoni tas-CO₂” tfisser il-volum mifrux tas-CO₂ fil-formazzjoni ġeoloġika;

“għheluq ta’ sit tal-ħżin” tfisser it-tmiem definit tal-injezzjoni tas-CO₂ f’dak is-sit tal-ħżin;

“ħżin ġeoloġiku tas-CO₂” tfisser l-injezzjoni li jkollha magħha l-ħżin tan-nixxieġhat tas-CO₂ f’formazzjonijiet ġeoloġiċi taht l-art;

“il-permess għall-ħżin” tfisser deċiżjoni (jew deċiżjonijiet) bil-miktub u motivata li tawtorizza l-ħżin ġeoloġiku tas-CO₂ f’sit tal-ħżin mill-operatur, u li tispeċifika l-kundizzjonijiet li taħthom ikun jista’ jsir, maħruġ mill-Awtorità Kompetenti skont il-ħtiġiet ta’ dawn ir-regolamenti u kull liġi oħra li tkun tapplika;

“irregolarità sinifikanti” tfisser kull irregolarità fl-operazzjonijiet tal-injezzjoni jew tal-ħżin jew fil-kundizzjoni tal-kumpless għall-ħżin innifsu, li tkun tindika r-riskju ta’ tnixxija jew ir-riskju għall-ambjent jew għas-saħħa tal-bniedem;

“kolonna tal-ilma” tfisser il-massa tal-ilma kontinwa vertikament mill-wiċċ sas-sedimenti tal-qiegħ tal-ilmijiet;

“kumpless tal-ħżin” tfisser is-sit tal-ħżin u l-oqsma ġeoloġiċi ta’ madwar li jistgħu jkollhom effett fuq l-integrità u s-sigurtà kumplessiva tal-ħżin, jiġifieri, formazzjonijiet sekondarji tal-ħżin;

“migrazzjoni” tfisser il-moviment tas-CO₂ ġewwa l-kumpless tal-ħżin;

“miżuri korrettivi” tfisser kull miżura meħuda biex jiġu korretti irregolaritajiet sinifikanti jew biex jingħalqu tnixxijiet sabiex jiġi evitat jew imwaqqaf ir-rilaxx tas-CO₂ mill-kumpless tal-ħżin;

“*network* tat-trasport” tfisser in-*network* ta’ pipelines, inklużi l-istazzjonijiet tal-kompressjoni assoċjati, għat-trasport tas-CO₂ sas-sit tal-ħżin.

“nixxieġha tas-CO₂” tfisser fluss ta’ sustanzi li jirriżulta mill-proċessi tal-ġbir tas-CO₂;

“operatur” tfisser kull persuna naturali jew ġuridika, privata jew pubblika li topera jew tikkontrolla s-sit tal-ħżin jew lil min ikun ġie delegat il-poter ekonomiku deċiżiv fuq il-funzjonament tekniku tas-sit tal-ħżin skont il-liġi li tkun applikata;

“permess għall-esplorazzjoni” tfisser deċiżjoni bil-miktub u motivata li tawtorizza l-esplorazzjoni, u li tispjefika l-kundizzjonijiet li taħthom tista’ tiġi attwata, maħruġa mill-Awtorità Kompetenti skont il-ħtiġiet ta’ dawn ir-regolamenti u kull liġi oħra li tkun applikata;

“riskju sinifikanti” tfisser taħlita ta’ probabbiltà li ssir ħsara u l-ammont ta’ ħsara li ma tistax tiġi injorata mingħajr ma jitqies l-iskop ta’ dawn ir-regolamenti għas-sit tal-ħżin ikkonċernat;

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“skart” tfisser is-sustanzi mfissra bħala skart fir-regolament 2 tar-Regolamenti tal-2001 dwar Permessi u Kontrolli fil-Maniġġjar ta’ Skart;

“sit tal-ħżin” tfisser zona ta’ volum stabbilit fil-formazzjoni ġeoloġika li tkun tintuza għall-ħżin ġeoloġiku tas-CO₂ u l-facilitajiet assoċjati tal-wiċċ u tal-injezzjoni;

“tnixxija” tfisser kull rilaxx ta’ CO₂ mill-kumpless tal-ħżin;

“unità idrawlika” tfisser spazju poruż b’konnessjoni idrawlika fejn il-komunikazzjoni tal-prensa tkun tista’ titkejjel

permezz ta' mezzi tekniċi u li jkun mdawwar minn ostakli għall-flussi, bħal imperfezzjonijiet, depożiti tal-melħ, limiti litoloġiċi, jew minn postijiet fejn il-formazzjoni tkun llevata 'l barra jew maħruġa 'l barra;

“wara l-għeluq” tfisser il-perjodu wara l-għeluq ta' sit tal-ħżin, inkluż il-perjodu ta' wara t-trasferiment tar-responsabbiltà lill-Awtorità Kompetenti.

4. (1) L-Awtorità Kompetenti għandha żżomm id-dritt li tistabbilixxi ż-żoni fit-tifsira tas-subregolament (1) tar-regolament 2 ta' dawn ir-regolamenti li minnhom jistgħu jintgħażlu siti tal-ħżin li jkunu konformi mal-ħtiġiet ta' dawn ir-regolamenti u kull liġi oħra li tkun tapplika. Dan jinkludi d-dritt tal-Awtorità Kompetenti li ma tippermetti ebda ħżin f'parti minn jew f'dawk iż-żoni kollha.

Għażla tas-siti tal-ħżin.

(2) L-adeqwatezza ta' formazzjoni ġeoloġika għall-użu bħala sit tal-ħżin għandha tiġi stabbilita b'karatterizzazzjoni u valutazzjoni tal-kumpless tal-ħżin potenzjali u ta' madwar skont il-kriterji msemmija fl-Ewwel Skeda li tinsab ma' dawn ir-regolamenti.

(3) Formazzjoni ġeoloġika għandha tiġi magħżula bħala sit tal-ħżin biss jekk taħt il-kundizzjonijiet tal-użu proposti ma jkun hemm l-ebda riskju sinifikanti ta' tnixxija, u jekk ma jkun jeżisti l-ebda riskju sinifikanti fuq l-ambjent jew fuq is-saħħa.

5. (1) Meta l-Awtorità Kompetenti tiddeċiedi li tkun meħtieġa esplorazzjoni biex tiġi provduta l-informazzjoni meħtieġa għall-għażla ta' siti ta' ħżin skont ir-regolament 4 ta' dawn ir-regolamenti, permess għall-esplorazzjoni maħruġ mill-Awtorità Kompetenti għandu jkun meħtieġ għat-twettiq ta' kull esplorazzjoni. Fejn ikun il-każ, jista' jiġi inkluż monitoraġġ tat-test tal-injezzjoni fil-permess għall-esplorazzjoni.

Permessi għall-esplorazzjoni.

(2) Il-proċeduri għall-għoti tal-permessi għall-esplorazzjoni għandhom ikunu miftuħa għall-entitajiet kollha li jkollhom il-kapaċitajiet meħtieġa. Il-permessi għandhom jingħataw jew jiġu miċhuda abbażi ta' kriterji oġġettivi, pubblikati u mhux diskriminatorji.

(3) It-tul taż-żmien tal-permess m'għandux jeċċedi l-perjodu meħtieġ biex tiġi mwettqa l-esplorazzjoni li jkun ingħata għaliha. L-Awtorità Kompetenti tista' testendi l-validità tal-permess fejn it-tul ta' żmien stipulat ma jkunx biżżejjed biex

titlesta l-esplorazzjoni konċernata u fejn l-esplorazzjoni tkun giet imwettqa skont il-permess. Il-permessi għall-esplorazzjoni għandhom jingħataw fir-rigward ta' zona ta' volum limitat.

(4) L-Awtorità Kompetenti tista' tinkludi fil-permess għall-esplorazzjoni kull kundizzjoni li jidrilha xierqa u opportuna.

(5) Id-detentur ta' permess għall-esplorazzjoni għandu jkollu l-uniku dritt li jesplora l-kumpless ta' ħzin potenzjali tas-CO₂. L-ebda użu konfliġġenti tal-kumpless ma jista' jiġi permess matul il-perjodu ta' validità tal-permess.

Permessi għall- ħzin.

6. (1) L-operat ta' sit tal-ħzin mingħajr permess għall-ħzin għandu jiġi projbit.

(2) L-Awtorità Kompetenti tista' tippermetti operatur wieħed biss għal kull sit tal-ħzin, u l-ebda użu konfliġġenti ma jista' jkun permess fuq is-sit.

(3) Il-proċeduri għall-għoti tal-permessi għall-ħzin għandhom ikunu miftuħa għall-entitajiet kollha li jkollhom il-kapacitajiet meħtieġa. Il-permessi għandhom jingħataw abbażi ta' kriterji oġġettivi, pubblikati u trasparenti.

(4) Mingħajr preġudizzju għall-ħtiġiet ta' dawn ir-regolamenti u għall-ħtiġiet ta' kull liġi oħra li tista' tkun applikata, għandha tingħata prijorità lill-għoti ta' permessi għall-ħzin għal sit partikolari lid-detentur ta' permess għall-esplorazzjoni għal dak is-sit:

Izda, l-esplorazzjoni ta' dak is-sit tkun tlestiet, kull kundizzjoni stabbilita fil-permess għall-esplorazzjoni tkun giet osservata, u l-applikazzjoni għall-permess għall-ħzin tkun saret matul il-perjodu ta' validità tal-permess għall-esplorazzjoni.

(5) Użu konfliġġenti tal-kumpless matul il-proċedura tal-permess huwa projbit.

(6) L-operatur għandu jhallas lill-Awtorità Kompetenti kull spiża maħruġa waqt il-ħruġ tal-permessi għall-ħzin u għar-regolament tal-operat hekk permess.

Applikazzjonijiet għall-permessi għall-ħzin.

7. L-applikazzjonijiet lill-Awtorità Kompetenti għall-permessi għall-ħzin għandhom jinkludu mill-inqas it-tagħrif li ġej:

- (a) l-isem u l-indirizz tal-operatur potenzjali;
- (b) prova tal-kompetenza teknika tal-operatur potenzjali;
- (ċ) il-karatterizzazzjoni tas-sit u tal-kumpless tal-ħżin u valutazzjoni tas-sikurezza mistennija tal-ħżin taħt is-subregolamenti (2) u (3) tar-regolament 4 ta' dawn ir-regolamenti;
- (d) il-kwantità totali tas-CO₂ li għandha tiġi injettata u maħżuna kif ukoll is-sorsi prospettivi u l-metodi tat-trasport, il-kompożizzjoni tan-nixxieġat tas-CO₂, ir-rati u l-perssonijiet tal-injezzjoni, u l-post fejn hemm il-faċilitajiet tal-injezzjoni;
- (e) deskrizzjoni tal-miżuri biex jiġu evitati irregolaritajiet sinifikanti;
- (f) pjan ta' monitoraġġ propost taħt is-subregolament (2) tar-regolament 13 ta' dawn ir-regolamenti;
- (g) pjan ta' miżuri korrettivi propost taħt is-subregolament (2) tar-regolament 16 ta' dawn ir-regolamenti;
- (h) pjan proviżorju ta' wara l-għeluq propost taħt is-subregolament (3) tar-regolament 17 ta' dawn ir-regolamenti;
- (i) l-informazzjoni provduta taħt ir-regolament 5 tar-Regolamenti tal-2007 dwar l-Istudju dwar l-Impatt Ambjentali;
- (j) prova li l-garanzija finanzjarja jew mezz ieħor ekwivalenti kif meħtieġ taħt ir-regolament 19 ta' dawn ir-regolamenti għandha tkun valida u effettiva qabel il-bidu tal-injezzjoni.

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8. L-Awtorità Kompetenti għandha toħroġ permess għall-ħżin biss jekk jintlaħqu l-kundizzjonijiet li ġejjin:

Kundizzjonijiet għall-permessi għall-ħżin.

- (a) l-Awtorità Kompetenti, abbażi tal-applikazzjoni preżentata taħt ir-regolament 7 ta' dawn ir-regolamenti u ta' kull tagħrif ieħor rilevanti, tkun sodisfatta li:
 - (i) kull htieġa rilevanti ta' dawn ir-regolamenti u ta' kull liġi rilevanti oħra jkunu ntlahqu;

(ii) l-operatur ikun f'qagħda finanzjarja soda u teknikament kompetenti u affidabbli biex jopera u jikkontrolla s-sit u li jkun provdut l-iżvilupp u t-taħriġ professjonali u tekniku tal-operatur u tal-istaff kollu;

(iii) fil-każ ta' aktar minn sit wieħed tal-ħżin fl-istess unità idrawlika, l-interazzjonijiet tal-pressjoni potenzjali jkunu b'dak il-mod li ż-żewġ siti jkunu jistgħu simultanjament jissodisfaw il-kundizzjonijiet ta' dawn ir-regolamenti u ta' kull liġi oħra li tista' tkun tapplika; u

(b) l-Awtorità Kompetenti tkun ikkunsidrat kull opinjoni tal-Kummissjoni dwar l-abbozz tal-permess li jkun inħareġ skont ir-regolament 10 ta' dawn ir-regolamenti.

Kontenut tal-permessi għall-ħżin.

9. Il-permess għandu jinkludi minn tal-inqas dan li ġej:

(a) l-isem u l-indirizz tal-operatur;

(b) il-lokalizzazzjoni u d-delimitazzjoni preċiża tas-sit tal-ħżin u tal-kumpless tal-ħżin, u tagħrif dwar l-unità idrawlika;

(c) il-ħtiġiet għall-operazzjoni tal-ħżin, il-kwantità totali ta' CO₂ awtorizzata li tiġi maħżuna ġeoloġikament, il-limiti tal-pressjoni tal-ġibjun, u r-rati u l-perssonijiet massimi ta' injezzjoni;

(d) l-ħtiġiet għall-kompożizzjoni tan-nixxieġha tas-CO₂ u l-proċedura ta' aċċettazzjoni tan-nixxieġha tas-CO₂ taħt ir-regolament 12 ta' dawn ir-regolamenti, u, jekk ikun meħtieġ, ħtiġiet oħra għall-injezzjoni u l-ħżin b'mod partikolari biex ma jithallex isiru irregolaritajiet sinifikanti;

(e) il-pjan ta' monitoraġġ approvat, l-obbligazzjoni li jiġi implimentat il-pjan u l-ħtiġiet għall-aġġornament tiegħu taħt ir-regolament 13 ta' dawn ir-regolamenti kif ukoll il-ħtiġiet ta' rappurtaġġ taħt ir-regolament 14 ta' dawn ir-regolamenti;

(f) l-ħtieġa li tiġi avzata l-Awtorità Kompetenti fil-każ ta' tnixxijiet jew irregolaritajiet sinifikanti, il-pjan ta' miżuri korrettivi approvat u l-obbligazzjoni li jiġi implimentat il-pjan ta' miżuri korrettivi fil-każ ta' tnixxijiet jew irregolaritajiet sinifikanti taħt ir-regolament 16 ta' dawn ir-regolamenti;

(g) l-kundizzjonijiet għall-għeluq u l-pjan proviżorju ta' wara l-għeluq approvat imsemmi fir-regolament 17 ta' dawn ir-regolamenti;

(h) kull dispożizzjoni dwar bidliet, reviżjoni, aġġornament u rtirar tal-permess għall-ħżin taht ir-regolament 11 ta' dawn ir-regolamenti;

(i) l-ħtieġa li tiġi stabbilita' u miżmuma l-garanzija finanzjarja jew kull ekwivalent ieħor skont ir-regolament 19 ta' dawn ir-regolamenti.

10. (1) L-Awtorità Kompetenti għandha tagħmel l-applikazzjonijiet għall-permess disponibbli għall-Kummissjoni fi żmien xahar minn meta tkun rċevithom. L-Awtorità Kompetenti għandha wkoll tagħmel disponibbli materjal relatat ieħor li għandu jiġi meqjus mill-Awtorità Kompetenti meta din tkun ser tieġu deċiżjoni dwar l-għoti ta' permess għall-ħżin. L-Awtorità Kompetenti għandha tgħarraf lill-Kummissjoni bl-abbozzi tal-permessi għall-ħżin kollha, u b'kull materjal ieħor meqjus meta jiġi adottat l-abbozz tad-deċiżjoni.

Reviżjoni tal-Kummissjoni tal-abbozzi tal-permessi għall-ħżin.

(2) L-Awtorità Kompetenti għandha tinforma bid-deċiżjoni finali lill-Kummissjoni, u fejn tkun tvarja mill-opinjoni li tkun ingħatat mill-Kummissjoni, hi għandha tagħti r-raġunijiet għad-deċiżjoni tagħha.

11. (1) L-operatur għandu jinforma lill-Awtorità Kompetenti b'kull bidla ppjanata fl-operazzjoni tas-sit tal-ħżin, inkluż tibdil li jkun jinvolvi l-operatur. Fejn xieraq, l-Awtorità Kompetenti għandha taġġorna l-permess għall-ħżin jew il-kundizzjonijiet tal-permess.

Tibdil, reviżjoni, aġġornament u rtirar tal-permess għall-ħżin.

(2) Ebda bidla sostanzjali ma tista' tiġi implimentata mingħajr il-ħruġ ta' permess għall-ħżin gdid jew aġġornat skont dawn ir-regolamenti. Punt 10 tal-Iskeda 1A li tinsab mar-Regolamenti tal-2007 dwar l-Istudju dwar l-Impatt Ambjentali dwar tibdil jew estensjonijiet għal proġetti approvati għandu japplika *mutatis mutandis* f'każijiet bħal dawn.

(3) L-Awtorità Kompetenti għandha tirrivedi u fejn meħtieġ taġġorna jew, jekk ma jistax isir mod ieħor, tirtira l-permess għall-ħżin:

(a) jekk tkun giet avżata jew tkun ingibdet lilha l-attenzjoni bi tnixxijiet jew kull irregolarità sinifikanti

skont is-subregolament (1) tar-regolament 16 ta' dawn ir-regolamenti;

(b) jekk ir-rapporti preżentati skont ir-regolament 14 ta' dawn ir-regolamenti jew l-ispezzjonijiet ambjentali mwettqa skont ir-regolament 15 ta' dawn ir-regolamenti jkunu juru nuqqas ta' ħarsien għall-kundizzjonijiet tal-permess jew riskji ta' tnixxijiet jew irregolaritajiet sinifikanti;

(ċ) jekk tkun konxja b'xi nuqqas ieħor mill-operatur li jilħaq il-kundizzjonijiet tal-permess;

(d) jekk ikun jidher li dan ikun neċessarju abbażi tal-aktar sejbiet xjentifiċi u progress teknoloġiku riċenti; jew

(e) mingħajr preġudizzju għall-paragrafi (a) sa (d) ta' dan is-subregolament, ħames snin wara l-ħruġ tal-permess u wara, kull għaxar snin.

(4) Wara li jiġi rtirat permess skont is-subregolament (3) ta dan ir-regolament, l-Awtorità Kompetenti għandha jew toħroġ permess għall-ħżin ġdid jew tagħlaq is-sit tal-ħżin skont il-paragrafu (ċ) tas-subregolament (1) tar-regolament 17 ta' dawn ir-regolamenti. Sakemm ma jkunx inħareġ permess għall-ħżin ġdid, l-Awtorità Kompetenti għandha temporanjament twettaq l-obbligi legali kollha relatati mal-kriterji ta' aċċettazzjoni meta l-Awtorità Kompetenti tiddeċiedi li l-injezzjonijiet tas-CO₂, il-monitoraġġ u l-miżuri korrettivi ma jitwaqqfux skont il-ħtiġiet stabbiliti f'dawn ir-regolamenti, iċ-ċediment tal-kwoti f'kazijiet ta' tnixxija taħt ir-Regolamenti tal-2005 dwar Skema Kummerċjali tal-Komunità Ewropea dwar l-Emissjonijiet ta' Gassijiet Serra, u azzjoni preventiva u ta' rimedju taħt ir-regolamenti 6 u 7 tar-Regolamenti tal-2008 dwar il-Prevenzjoni u r-Rimedju għal Danni Ambjentali. L-Awtorità Kompetenti għandha tirkupra kull spiża magħmula mingħand l-operatur preċedenti anki billi tagħmel użu mill-garanzija finanzjarja msemmija fir-regolament 19 ta' dawn ir-regolamenti. Fil-każ tal-għeluq tas-sit tal-ħżin taħt is-subregolament (1) tar-regolament 17 ta' dawn ir-regolamenti, għandu japplika s-subregolament (4) tar-regolament 17 ta' dawn ir-regolamenti.

A.L. 140 tal-2005.

A.L. 126 tal-2008.

Kriterji u l-proċedura tal-aċċettazzjoni tan-nixxieġha tas-CO₂.

12. (1) Nixxieġha tas-CO₂ għandha tikkonsisti kważi għal kollox f'dijossidu tal-karbonju. Għal dan il-għan, l-ebda skart jew ħaġa oħra ma jistgħu jiġu miżjuda sabiex dak l-iskart jew ħaġa oħra jiġu mormija. Madankollu, nixxieġha tas-CO₂ jista' jkun fiha sustanzi li jkunu assocjati b'mod supplimentari mis-sors, mill-gbir jew mill-proċess tal-injezzjoni u sustanzi ta' traċċi miżjuda

biex jgħinu fil-monitoraġġ u l-verifika tal-migrazzjoni tas-CO₂. Il-koncentrazzjonijiet tas-sustanzi kollha supplimentari u miżjuda għandhom ikunu anqas minn livelli li:

- (a) jkunu jaffettwaw b'mod ħazin l-integrità tas-sit għall-ħżin jew l-infrastruttura tat-trasport rilevanti;
- (b) jkunu ta' riskju sinifikanti għall-ambjent jew għas-saħħa tal-bniedem; jew
- (ċ) ikunu jiksru l-htigiet tal-liġi Komunitarja li tkun tapplika.

(2) L-operatur għandu:

- (a) jaċċetta u jinjetta biss nixxigħat tas-CO₂ jekk ikunu twettqu analizi tal-kompożizzjoni, inklużi s-sustanzi korrużivi, tan-nixxigħat, u stima tar-riskju, u jekk l-istima tar-riskju turi li l-livelli ta' kontaminazzjoni jkunu skont il-kundizzjonijiet imsemmija fis-subregolament (1) ta dan ir-regolament;
- (b) iżomm reġistru tal-kwantitajiet u l-karatteristiċi tan-nixxieġhat tas-CO₂ li jkunu konsenjati u injettati, inkluża l-kompożizzjoni ta' dawk in-nixxieġhat.

13. (1) L-operatur għandu jwettaq monitoraġġ tal-faċilitajiet ta' injezzjoni, tal-kumpless tal-ħżin (anki fejn possibbli tal-formazzjoni tas-CO₂), u fejn xieraq tal-ambjent tal-madwar għall-fini ta': Monitoraġġ.

- (a) qbil bejn il-kumpless attwali u dak immuddellat tas-CO₂ u ilma ta' formazzjoni, fis-sit tal-ħżin;
- (b) identifikazzjoni ta' irregolaritajiet sinifikanti;
- (ċ) identifikazzjoni ta' migrazzjoni ta' CO₂;
- (d) identifikazzjoni ta' tnixxija tas-CO₂;
- (e) identifikazzjoni ta' effetti ta' ħsara sinifikanti għall-ambjent tal-madwar, anki b'mod partikolari fuq l-ilma tax-xorb, għall-popolazzjonijiet tal-bnedmin, jew għall-utenti tal-bijosfera tal-madwar;

(f) valutazzjoni tal-effettività ta' kull miżura korrettiva meħuda skont ir-regolament 16 ta' dawn ir-regolamenti;

(g) aġġornament tal-valutazzjoni tas-sigurtà u l-integrità tal-kumpless tal-ħżin fil-perjodu qasir u dak fit-tul, inkluża l-valutazzjoni jekk is-CO₂ maħżun ikunx se jkun miżmum għal kollox u b'mod permanenti.

(2) Il-monitoraġġ għandu jkun ibbażat fuq pjan ta' monitoraġġ imfassal mill-operatur skont il-ħtiġiet stabbiliti fit-Tieni Skeda li tinsab ma' dawn ir-regolamenti, inklużi dettalji dwar il-monitoraġġ skont il-linji gwida stabbiliti taħt ir-regolament 13 tar-Regolamenti tal-2005 dwar Skema Kummerċjali tal-Komunità Ewropea dwar l-Emissjonijiet ta' Gassijiet Serra, preżentat lill-Awtorità Kompetenti u approvat minnha skont il-paragrafu (f) tar-regolament 7 u skont il-paragrafu (e) tar-regolament 9 (5) ta' dawn ir-regolamenti. Il-pjan għandu jiġi aġġornat skont il-ħtiġiet stabbiliti fit-Tieni Skeda li tinsab ma' dawn ir-regolamenti u f'kull każ kull ħames snin biex jitqies t-tibdil għar-riskju vvalutat ta' tnixxija, tibdil fir-riskji stmati għall-ambjent u s-saħħa tal-bniedem, tagħrif xjentifiku ġdid, u titjib fl-aħjar teknoloġija disponibbli. Għandhom jiġu preżentati mill-ġdid pjanijiet aġġornati għall-approvazzjoni lill-Awtorità Kompetenti.

Rappurtaġġ mill-operatur.

14. L-operatur għandu jippreżenta lill-Awtorità Kompetenti, bi frekwenza li għandha tiġi stabbilita mill-Awtorità Kompetenti, u f'kull każ mill-inqas darba f'sena:

(a) ir-riżultati kollha tal-monitoraġġ taħt ir-regolament 13 ta' dawn ir-regolamenti fil-perjodu tar-rappurtaġġ inkluż it-tagħrif dwar it-teknoloġija tal-monitoraġġ li tkun tintuża;

(b) il-kwantitajiet u l-karatteristiċi tan-nixxigħat tas-CO₂ ikkonsenjati u injettati, inkluża l-kompożizzjoni ta' dawk in-nixxigħat, fil-perjodu tar-rappurtaġġ, reġistrati skont il-paragrafu (b) tas-subregolament (2) tar-regolament 12 ta' dawn ir-regolamenti;

(c) prova tat-twaqqif u taż-żamma tal-garanzija finanzjarja taħt ir-regolament 19 u taħt il-paragrafu (i) tar-regolament 9 ta' dawn ir-regolamenti;

(d) kull tagħrif ieħor li l-Awtorità Kompetenti tqis rilevanti għall-finijiet tal-valutazzjoni tal-harsien għall-kundizzjonijiet tal-permess għall-ħżin u taż-żjieda fit-tagħrif dwar il-kumpless tas-CO₂ fis-sit tal-ħżin.

15. (1) L-Awtorità Kompetenti għandha torganizza sistema ta' spezzjonijiet ta' rutina jew mhux ta' rutina tal-kumplessi tal-ħżin kollha għall-fini ta' dawn ir-regolamenti għall-finijiet ta' verifika u biex iheggu l-ħarsien għall-ħtigiet ta' dawn ir-regolamenti u tal-monitoraġġ tal-effetti fuq l-ambjent u fuq is-saħħa tal-bniedem. Spezzjonijiet.

(2) L-ispezzjonijiet għandhom jinkludu attivitajiet bħal żjarat tal-istallazzjonijiet tal-wiċċ, inklużi l-faċilitajiet ta' injezzjoni, il-valutazzjoni tal-operazzjonijiet ta' injezzjoni u ta' monitoraġġi mwettqa mill-operatur, u l-verifika tar-reġistri kollha rilevanti miżmuma mill-operatur.

(3) L-ispezzjonijiet ta' rutina għandhom jitwettqu mill-inqas darba fis-sena sa tliet snin wara l-għeluq u kull hames snin sa meta jseħh it-trasferiment tar-responsabbiltà lill-Awtorità Kompetenti. L-Awtorità Kompetenti għandha teżamina il-faċilitajiet ta' injezzjoni u ta' monitoraġġ rilevanti kif ukoll il-firxa sħiħa tal-effetti rilevanti mill-kumpless tal-ħżin fuq l-ambjent u fuq is-saħħa tal-bniedem.

(4) L-ispezzjonijiet mhux ta' rutina għandhom jitwettqu:

(a) jekk l-Awtorità Kompetenti tkun giet avżata jew tkun giet mgħarrfa bi tnixxijiet jew b'irregolaritajiet sinifikanti skont s-subregolament (1) tar-regolament 16 ta' dawn ir-regolamenti;

(b) jekk ir-rapporti skont ir-regolament 14 ta' dawn ir-regolamenti jkunu wrew nuqqas ta' ħarsien għall-kundizzjonijiet tal-permess;

(ċ) biex jiġu investigati lmenti serji relatati mal-ambjent jew mas-saħħa tal-bniedem;

(d) f'sitwazzjonijiet oħra fejn l-Awtorità Kompetenti tqis li dan ikun xieraq.

(5) Wara kull spezzjoni, l-Awtorità Kompetenti għandha tipprepara rapport dwar ir-riżultati tal-ispezzjoni. Ir-rapport għandu jevalwa l-ħarsien għall-ħtigiet ta' dawn ir-regolamenti u jindika jekk tkunx meħtieġa jew le azzjoni oħra. Ir-rapport għandu jiġi nformat lill-operatur ikkonċernat u għandu jkun disponibbli pubblikament skont il-liġi Komunitarja rilevanti fi żmien xahrejn mill-ispezzjoni.

Miżuri f'każ ta' tnixxijiet jew irregolaritajiet sinifikanti.

16. (1) F'każ ta' tnixxijiet jew irregolaritajiet sinifikanti l-operatur għandu jinforma minnufih lill-Awtorità Kompetenti u jieħu l-miżuri korrettivi meħtieġa inklużi miżuri li jkollhom x'jaqsmu mal-protezzjoni tas-saħħa tal-bniedem. Fil-każijiet ta' tnixxijiet u irregolaritajiet sinifikanti li jimplikaw ir-riskju ta' tnixxija, l-operatur għandu jinforma wkoll lill-Awtorità skont ir-Regolamenti tal-2005 dwar Skema Kummerċjali tal-Komunità Ewropea dwar l-Emissjonijiet ta' Gassijiet Serra.

(2) Il-miżuri korrettivi msemmija fis-subregolament (1) għandhom jittieħdu bħala minimu abbażi ta' pjan ta' miżuri korrettivi preżentat lill-Awtorità Kompetenti u approvat minnha skont il-paragrafu (g) tar-regolament 7 u skont il-paragrafu (f) tar-regolament 9 ta' dawn ir-regolamenti.

(3) L-Awtorità Kompetenti tista' f'kull waqt teħtieġ lill-operatur biex jieħu l-miżuri korrettivi meħtieġa kif ukoll il-miżuri relatati mal-protezzjoni tas-saħħa tal-bniedem. Dawn jistgħu jkunu supplimentari għal jew differenti minn daww stabbiliti fil-pjan ta' miżuri korrettivi. L-Awtorità Kompetenti tista' wkoll f'kull waqt tieħu miżuri korrettivi hi stess.

(4) Jekk l-operatur jonqos milli jieħu l-miżuri korrettivi meħtieġa, l-Awtorità Kompetenti għandha tieħu l-miżuri korrettivi meħtieġa hi stess.

(5) L-Awtorità Kompetenti għandha tigbor l-ispejjeż li jkunu ntnefqu fir-rigward tal-miżuri msemmija fis-subregolamenti (3) u (4) ta' dan ir-regolament mingħand l-operatur anki bl-użu tal-garanzija finanzjarja skont ir-regolament 19 ta' dawn ir-regolamenti.

Obbligazzjonijiet tal-għeluq u ta' wara l-għeluq.

17. (1) Sit tal-ħżin għandu jingħalaq:

(a) jekk il-kundizzjonijiet rilevanti dikjarati fil-permess jkunu ntnlaħqu;

(b) fuq talba motivata tal-operatur, wara awtorizzazzjoni tal-Awtorità Kompetenti; jew

(c) jekk l-Awtorità Kompetenti tiddeċiedi hekk wara l-irtirar ta' permess għall-ħżin skont is-subregolament (3) tar-regolament 11 ta' dawn ir-regolamenti.

(2) Wara li sit tal-ħżin jingħalaq skont il-paragrafi (a) jew (b) tas-subregolament (1) ta' dan ir-regolament, l-operatur

jibqa' responsabbli għall-monitoraġġ, għar-rappurtaġġ, u għall-miżuri skont il-ħtiġiet stabbiliti f'dawn ir-regolamenti, u għall-obbligazzjonijiet kollha relatati maċ-ċediment tal-kwoti f'każ ta' tnixxijiet skont ir-Regolamenti tal-2005 dwar Skema Kummerċjali tal-Komunità Ewropea dwar l-Emissjonijiet ta' Gassijiet Serra, u azzjonijiet preventivi u ta' rimedju skont ir-regolamenti 6 u 7 tar-Regolamenti tal-2008 dwar il-Prevenzjoni u r-Rimedju għal Danni Ambjentali, sakemm ir-responsabbiltà għas-sit tal-ħzin tiġi trasferita lill-Awtorità Kompetenti taħt is-subregolamenti (1) sa (5) tar-regolament 18 ta' dawn ir-regolamenti. L-operatur għandu wkoll ikun responsabbli għall-issigillar tas-sit tal-ħzin u t-tneħħija tal-facilitajiet ta' injezzjoni.

(3) L-obbligazzjonijiet imsemmija fis-subregolament (2) ta' dan ir-regolament għandhom jintlaħqu abbażi ta' pjan ta' wara l-għeluq imfassal mill-operatur ibbażat fuq l-aħjar prattika u skont il-ħtiġiet stabbiliti fit-Tieni Skeda li tinsab ma' dawn ir-regolamenti. Il-pjan proviżorju ta' wara l-għeluq għandu jiġi preżentat lill-Awtorità Kompetenti u jiġi approvat minnha taħt il-paragrafu (h) tar-regolament 7 ta' dawn ir-regolamenti u taħt il-paragrafu (g) tar-regolament 9 ta' dawn ir-regolamenti. Qabel l-għeluq ta' sit tal-ħzin skont il-paragrafu (a) jew il-paragrafu (b) tas-subregolament (1) ta' dan ir-regolament, il-pjan proviżorju ta' wara l-għeluq għandu jkun:

(a) aġġornat kif meħtieġ, filwaqt li tingħata mportanza għall-analizi tar-riskju, l-aħjar prattika u t-titjib teknologiku;

(b) preżentat lill-Awtorità Kompetenti għall-approvazzjoni tagħha; u

(c) approvat mill-Awtorità Kompetenti bhala l-pjan ta' wara l-għeluq definittiv.

(4) Wara li sit tal-ħzin jingħalaq skont il-paragrafu (c) tas-subregolament (1) ta' dan ir-regolament, l-Awtorità Kompetenti għandha tkun responsabbli għall-monitoraġġ u l-miżuri korrettivi skont il-ħtiġiet stabbiliti f'dawn ir-regolamenti u għall-obbligazzjonijiet kollha relatati maċ-ċediment tal-kwoti fil-każ ta' tnixxija skont ir-Regolamenti tal-2005 dwar Skema Kummerċjali tal-Komunità Ewropea dwar l-Emissjonijiet ta' Gassijiet Serra, u għall-azzjoni preventiva u ta' rimedju skont ir-regolamenti 6 (1) u 7 (1) tar-Regolamenti tal-2008 dwar il-Prevenzjoni u r-Rimedju għal Danni Ambjentali. Il-ħtiġiet ta' wara l-għeluq skont dawn ir-regolamenti għandhom jintlaħqu mill-Awtorità Kompetenti abbażi

tal-pjan proviżorju ta' wara l-għeluq imsemmi fis-subregolament (3) ta' dan ir-regolament, li għandu jkun aġġornat kif meħtieġ.

Trasferiment ta' responsabbiltà.

18. (1) Meta sit tal-ħżin jingħalaq taht il-paragrafu (a) jew il-paragrafu (b) tas-subregolament (1) tar-regolament 17 ta' dawn ir-regolamenti, l-obbligazzjonijiet legali kollha relatati mal-monitoraġġ u l-miżuri korrettivi skont il-ħtiġiet stabbiliti skont dawn ir-regolamenti, iċ-ċediment tal-kwoti f'kazijiet ta' tnixxija skont ir-Regolamenti tal-2005 dwar Skema Kummerċjali tal-Komunità Ewropea dwar l-Emissjonijiet ta' Gassijiet Serra, u l-azzjoni preventiva u ta' rimedju skont ir-regolamenti 6 (1) u 7 (1) tar-Regolamenti tal-2008 dwar il-Prevenzjoni u r-Rimedju għal Danni Ambjentali, għandhom jiġu trasferiti lill-Awtorità Kompetenti fuq inizjattiva tagħha stess jew fuq talba mill-operatur kemm-il darba l-kundizzjonijiet li ġejjin ikunu rispettati:

(a) l-evidenza disponibbli kollha tkun tindika li s-CO₂ maħżun ser ikun miżmum għal kollox u tkun b'mod permanenti;

(b) perjodu minimu, li għandu jiġi stabbilit mill-Awtorità Kompetenti, jkun għadda. Dan il-perjodu minimu m'għandux ikun inqas minn 20 sena, sakemm l-Awtorità Kompetenti ma tkunx konvinta li l-kriterju msemmi fil-paragrafu (a) jkun intlaħaq qabel ikun għadda dan il-perjodu;

(ċ) l-obbligi finanzjarji msemmija fir-regolament 20 jkunu ntlahqu;

(d) is-sit ikun ġie siggillat u l-facilitajiet ta' injezzjoni jkunu tneħħew.

(2) L-operatur għandu jhejji rapport li jkollu fih l-kundizzjoni msemmija fil-paragrafu (a) tas-subregolament (1) ta' dan ir-regolament tkun intlaħqet u għandu jipprezentah lill-Awtorità Kompetenti sabiex din tal-aħħar tapprova t-trasferiment tar-responsabbiltà. Dan ir-rapport għandu juri, minn tal-inqas:

(a) il-qbil bejn il-kumpless attwali tas-CO₂ injettat u l-kumpless immudellat;

(b) in-nuqqas ta' xi tnixxija li tista' tiġi rilevata;

(ċ) li s-sit għall-ħżin jkun qiegħed jevolvi lejn sitwazzjoni ta' stabbiltà fit-tul.

(3) Meta l-Awtorità Kompetenti tkun sodisfatta li l-kundizzjonijiet imsemmija fil-paragrafi (a) u (b) tas-subregolament (1) ta' dan ir-regolament ikunu ntlahqu, hi għandha tneħħi abbozz ta' deċiżjoni ta' approvazzjoni tat-trasferiment tar-responsabbiltà. L-abbozz tad-deċiżjoni għandu jispeċifika l-metodu biex jiġi stabbilit li l-kundizzjonijiet imsemmija fil-paragrafu (d) tas-subregolament (1) ta' dan ir-regolament ikunu ntlahqu kif ukoll kull ħtieġa aġġornata għall-issigġillar tas-sit għall-ħżin u għat-tneħħija tal-faċilitajiet ta' injezzjoni. Jekk l-Awtorità Kompetenti tqis li l-kundizzjonijiet fil-paragrafi (a) u (b) tas-subregolament (1) ta' dan ir-regolament ma jkunux intlahqu, hi għandha tinforma lill-operatur bir-raġunijiet tagħha.

(4) Meta l-Awtorità Kompetenti tkun sodisfatta li l-kundizzjonijiet imsemmija fil-paragrafi (a) sa (d) tas-subregolament (1) ta' dan ir-regolament ikunu ntlahqu, hi għandha tadotta d-deċiżjoni finali u tavża b'dik id-deċiżjoni lill-operatur. L-Awtorità Kompetenti għandha wkoll tinforma bid-deċiżjoni finali lill-Kummissjoni, u fejn tkun tvarja mill-opinjoni li tkun ingħatat mill-Kummissjoni, hi għandha tagħti r-raġunijiet għal dik id-deċiżjoni.

(5) Wara t-trasferiment tar-responsabbiltà l-ispezzjonijiet ta' rutina stabbiliti fis-subregolament (3) tar-regolament 15 ta' dawn ir-regolamenti għandhom jieqfu u l-monitoraġġ jista' jiġi naqqas għal livell li jippermetti li jinstabu tnixxijiet jew irregolaritajiet sinifikanti. Jekk jinstabu xi tnixxijiet jew irregolaritajiet sinifikanti, l-monitoraġġ għandu jiġi intensifikat kif meħtieġ biex jevalwa l-kobor tal-problema u l-effikaċja ta' miżuri korrettivi.

(6) F'każijiet fejn ikun hemm nuqqas min-naħa tal-operatur, inklużi każijiet ta' *data* mhix tajba biżżejjed, ħabi ta' tagħrif rilevanti, negligenza, ingann bi ħsieb jew nuqqas fl-eżerċizzju ta' diligenza xierqa, l-Awtorità Kompetenti għandha tiġbor mingħand l-operatur preċedenti l-ispejjeż li jkunu ntnefqu wara li jkun seħħ it-trasferiment tar-responsabbiltà. Mingħajr preġudizzju għar-regolament 20 ta' dawn ir-regolamenti, m'għandu jkun hemm l-ebda għbir ieħor tal-ispejjeż preċedenti wara t-trasferiment tar-responsabbiltà.

(7) Fejn sit tal-ħżin jingħalaq skont il-paragrafu (c) tas-subregolament (1) tar-regolament 17 ta' dawn ir-regolamenti, it-trasferiment tar-responsabbiltà għandu jitqies li jkun seħħ jekk u meta l-evidenza kollha disponibbli tkun tindika li s-CO₂ maħżun se jkun miżmum għal kollox u b'mod permanenti, u wara li s-sit ikun ġie issigillat u l-faċilitajiet ta' injezzjoni jkunu ġew imneħħija.

Garanzija finanzjarja.

19. (1) L-operatur potenzjali għandu jagħti prova, bħala parti mill-applikazzjoni għall-permess għall-ħżin, li jistgħu jkunu stabbiliti dispożizzjonijiet adegwati, bħala garanzija finanzjarja jew kull mezz ekwivalenti ieħor, abbażi ta' arrangamenti li għandhom jiġu deċizi mill-Awtorità Kompetenti, li jistgħu jinkludu strumenti ta' garanzija finanzjarja, garanziji bankarji u polza ta' assigurazzjoni adegwata, sabiex jiġi żgurat li l-obbligazzjoni kollha li tirriżultaw mill-permess maħruġ skont dawn ir-regolamenti, inklużi ħtiġiet tal-għeluq u ta' wara l-għeluq, kif ukoll kull obbligazzjoni li tirriżulta mill-inklużjoni tas-siti għall-ħżin skont ir-Regolamenti tal-2005 dwar Skema Kummerċjali tal-Komunità Ewropea dwar l-Emissjonijiet ta' Gassijiet Serra jistgħu jintlaħqu. Din is-sigurtà finanzjarja għandha tkun valida u effettiva qabel il-bidu tal-injezzjoni.

(2) Il-garanzija finanzjarja għandha tiġi modifikata perjodikament biex jiġi kkunsidrat t-tibdil għar-riskju valutat ta' tnixxija u l-ispejjeż stmati tal-obbligazzjonijiet kollha li jirriżultaw mill-permess maħruġ skont dawn ir-regolamenti, inkluża kull obbligazzjoni li tkun tirriżulta mill-inklużjoni tas-sit għall-ħżin skont ir-Regolamenti tal-2005 dwar Skema Kummerċjali tal-Komunità Ewropea dwar l-Emissjonijiet ta' Gassijiet Serra.

(3) Il-garanziji finanzjarji jew kull mezz ekwivalenti ieħor imsemmi fis-subregolament (1) ta' dan ir-regolament għandhom jibqgħu validi u effettivi:

(a) wara li sit tal-ħżin jingħalaq skont il-paragrafi (a) jew (b) tas-subregolament (1) tar-regolament 17 ta' dawn ir-regolamenti, sakemm ir-responsabbiltà għas-sit tal-ħżin tiġi trasferita lill-Awtorità Kompetenti skont is-subregolamenti (1) sa (5) tar-regolament 18 ta' dawn ir-regolamenti;

(b) wara l-irtirar ta' permess għall-ħżin skont is-subregolament (3) tar-regolament 11 ta' dawn ir-regolamenti:

(i) sakemm jinħareġ permess għall-ħżin ġdid;

(ii) fejn is-sit jingħalaq taħt il-paragrafu (ċ) tas-subregolament (1) tar-regolament 17 ta' dawn ir-regolamenti, sakemm isir it-trasferiment tar-responsabbiltà skont is-subregolament (8) tar-regolament 18 ta' dawn ir-regolamenti:

Iżda, l-obbligi finanzjarji msemmija fir-regolament 20 ta' dawn ir-regolamenti jkunu ntlahqu.

20. (1) L-operatur għandu, abbażi tal-arrangamenti dettaljati li għandhom ikunu decizi mill-Awtorità Kompetenti, iqiegħed kontribuzzjoni finanzjarja għad-dispożizzjoni tal-Awtorità Kompetenti qabel ma jkun sar it-trasferiment tar-responsabbiltà skont ir-regolament 18 ta' dawn ir-regolamenti. Il-kontribuzzjoni mill-operatur għandha tqis dawk il-kriterji msemmija fl-Ewwel Skeda ta' dawn ir-regolamenti u l-elementi li għandhom x'jaqsmu mar-rekord tal-ħżin tas-CO₂ rilevanti biex ikunu stabbiliti l-obbligi ta' wara t-trasferiment, u għandha tkopri mill-inqas l-ispiza antiċipata ta' monitoraġġ għal perjodu ta' 30 sena. Din il-kontribuzzjoni finanzjarja tista' tintuża biex tkopri l-ispejjeż li jkunu ntnefqu mill-Awtorità Kompetenti wara t-trasferiment tar-responsabbiltà sabiex ikun żgurat li s-CO₂ ikun miżmum għal kollox u b'mod permanenti u f'siti għall-ħżin ġeoloġiku wara t-trasferiment tar-responsabbiltà.

Mekkaniżmu
finanzjarju.

21. (1) L-Awtorità Kompetenti għandha tistabbilixxi u żżomm:

Reġistri.

(a) reġistru tal-permessi għall-ħżin li jkunu ngħataw; u

(b) reġistru permanenti ta' kull sit tal-ħżin magħluq u tal-kumpleksi tal-ħżin tal-madwar, inklużi mapep u taqsimiet li juru safejn dawn ikunu jwasslu u tagħrif disponibbli rilevanti biex jiġi valutat li s-CO₂ maħzun ser ikun miżmum għal kollox u b'mod permanenti.

(2) L-Awtorità ta' Malta dwar l-Ambjent u l-Ippjanar għandha tikkunsidra r-reġistri msemmija fis-subregolament (1) ta' dan ir-regolament fil-proċeduri ta' pjanar rilevanti u meta tippermetti xi attività li tista' taffettwa lil jew tiġi affettwata mill-ħżin ġeoloġiku tas-CO₂ fis-siti tal-ħżin registrati.

22. L-Awtorità Kompetenti għandha tagħmel disponibbli lill-pubbliku t-tagħrif ambjentali relatat mal-ħżin ġeoloġiku tas-CO₂ skont il-liġi Komunitarja li tkun tapplika.

Tagħrif għall-
pubbliku.

23. L-Awtorità Kompetenti tista' toħroġ linji gwida f'dak li għandu x'jaqsam mad-dispożizzjonijiet ta' dawn ir-regolamenti.

Linji gwida.

24. (1) L-Awtorità Kompetenti tista' toħroġ ordni ta' ħarsien kontra kull min ikun, fil-fehma tagħha, kiser xi dispożizzjoni ta' dawn ir-regolamenti jew xi kundizzjoni ta' liċenza jew awtorizzazzjoni maħruġa skonthom.

Ordnijiet ta' ħarsien.

(2) Kull min jonqos milli jħares id-dispożizzjonijiet ta' xi ordni ta' ħarsien maħruġa mill-Awtorità għandu, mingħajr preġudizzju għal kull responsabbiltà oħra skont dawn ir-regolamenti, taħt l-Att jew xi liġi oħra, jkun hati ta' reat u jista' jeħel, meta jinsab hati, multa ta' mhux inqas minn elf euro (€1,000) u ta' mhux iżjed minn sittin elf euro (€60,000) għal kull ġurnata li matulha jkompli dak in-nuqqas.

Reati.

25. (1) Kull min jikser xi dispożizzjoni ta' dawn ir-regolamenti jew ta' xi kundizzjoni tal-permess jew ta' licenza jew ta' xi awtorizzazzjoni jew approvazzjoni maħruġa skonthom, ikun hati ta' reat u jista', meta jinsab hati, jeħel multa ta' mhux iżjed minn disgħa u sittin elf euro (€69,000) jew ta' elf u tliet mitt euro (€1,300) għal kull ġurnata li matulha jkompli dak ir-reat.

(2) Kull min, meta tenħtieġ jew tintalab informazzjoni dwar dawn ir-regolamenti mill-Awtorità, xjentement jew volontarjament -

(a) jagħti informazzjoni falza, mhux eżatta jew li tqarraq;

jew

(b) jipprovdi informazzjoni mhux kompluta; jew

(c) jonqos, mingħajr ebda kawża raġonevoli, milli jipprovdi l-informazzjoni mitluba fiż-żmien mogħti lilu; jew

(d) jipprevjeni jew ifixkel xi investigazzjoni; jew

(e) iġib jew jipprovdi, jew jikkaguna jew xjentement jippermetti li jinġieb jew jiġi provdut, xi dokument jew informazzjoni li jkun jaf li tkun falza f'xi aspekk materjali,

jkun hati ta' reat u jista', meta jinsab hati, jeħel multa ta' mhux inqas minn elf euro (€1,000) u ta' mhux iżjed minn sittin elf euro (€60,000) għal kull ġurnata li matulha jkompli dak ir-reat. **L-**

EWWEL SKEDA

Regolament 4 (2)

KRITERJI GHALL-KARATTERIZZAZZJONI U L-VALUTAZZJONI TAL-KUMPLESS GHALL-ĦŻIN POTENZJALI U TAŻ-ŻONA TAL-MADWAR IMSEMMIJA FIR- REGOLAMENT 4 (2)

Il-karatterizzazzjoni u l-valutazzjoni tal-kumpless tal-ħżin potenzjali u taż-żona tal-madwar imsemmija fir-regolament 4(2) għandhom jitwettqu fi tliet partijiet skont l-aħjar prattika fil-ħin tal-valutazzjoni u l-kriterji li ġejjin. Jistgħu jkunu permessi derogi minn wieħed jew aktar minn dawn il-kriterji mill-Awtorità Kompetenti kemm-il darba li l-operatur juri li l-kapaċità tal-karatterizzazzjoni u l-valutazzjoni li jippermettu d-determinazzjonijiet skont ir-regolament 4 ta' dawn ir-regolamenti ma tiġix affettwata.

Parti 1: Il-ġbir tad-data

Għandha tiġi akkumulata biżżejjed data biex jinbena mudell tal-art volumetrik u statiku tridimensjonali (3-D) għas-sit tal-ħżin u għall-kumpless tal-ħżin inkluża l-blata tal-wiċċ (caprock) u l-madwar, inklużi l-oqsma konnessi idrawlikament. Din id-data għandha tkopri mill-inqas il-karatteristiċi intrinseki tal-kumpless għall-ħżin li ġejjin:

- (a) il-ġeoloġija u l-ġeofizika;
- (b) l-idroġeoloġija (b' mod partikolari l-eżistenza ta' ilma ta' taħt l-art intenzjonat għall-konsum);
- (ċ) l-inġinerija tal-ġibjuni (inklużi kalkoli volumetriċi tal-volum tal-pori għall-injezzjoni tas- CO₂ u l-kapaċità tal-ħżin, finali);
- (d) il-ġeokimika (rati ta' xoljiment, ir-rati tal-mineralizzazzjoni);
- (e) il-ġeomekkanika (il-permeabbiltà, il-pressjoni tal-qsim);
- (f) is-siżmiċità;
- (g) il-preżenza u kundizzjoni ta' passaġġi naturali jew magħmula mill-nbiedem inklużi bjar u spiri li jistgħu jipprovdu passaġġi għat-tnixxijiet;

Il-karatteristiċi li ġejjin tal-vicinanza kumplessa għandhom jiġu dokumentati:

- (h) l-oqsma li jkunu madwar il-kumpless tal-ħżin li jistgħu jiġu affettwati mill-ħżin tas- CO₂ fis-sit tal-ħżin;
- (i) id-distribuzzjoni tal-popolazzjoni fir-regjun sovrastanti s-sit tal-ħżin;

(j) il-viċinanza għal riżorsi naturali ta' valur (inklużi b'mod partikolari ż-żoni tan-Natura 2000 skont id-Direttiva tal-Kunsill 79/409/KEE tat-2 ta' April 1979 dwar il-konservazzjoni tal-għasafar selvaġġi u d-Direttiva tal-Kunsill 92/43/KEE tal-21 ta' Mejju 1992 dwar il-konservazzjoni tal-abitat naturali u tal-fawna u l-flora selvaġġa, ilma ta' taħt l-art tax-xorb u idrokarboni);

(k) l-attivitajiet madwar il-kumpless għall-ħżin u l-interazzjonijiet possibbli ma' dawn l-attivitajiet (eż. l-esplorazzjoni, il-produzzjoni u l-ħżin tal-idrokarboni, l-użu ġeotermali ta' blat li jżomm fih ħafna ilma u l-użu tar-riżervi tal-ilma ta' taħt l-art);

(l) il-viċinanza għas-sors(i) potenzjali ta' CO₂ (inklużi stimi tal-massa totali potenzjali tas- CO₂ ekonomikament disponibbli għall-ħżin) u n-networks adatti tat-trasport.

Parti 2: Bini tal-mudell tal-art ġeoloġiku statiku tridimensjonali

Permezz tad-data miġbura fil-Parti 1, għandu jinbena mudell tal-art ġeoloġiku statiku tridimensjonali, jew sett ta' dawn it-tip ta' mudelli, tal-kumpless tal-ħżin kandidat inkluż il-blat tal-wiċċ (caprock) u ż-żoni u fluwidi konnessi idrawlikament bl-użu ta' simulaturi kompjuterizzati tal-ġibjuni. Il-mudell(i) tal-art ġeoloġiku / ġeoloġiċi statiku/statiċi għandu/għandhom jikkarakterizza(w) il-kumpless f'termini ta':

(a) l-istruttura ġeoloġika tas-sifun fiżiku;

(b) il-karatteristiċi ġeomekkaniċi, ġeokimiċi u tal-fluss tal-piż sovrastmat tal-ġibjun (il-blata tal-wiċċ, is-siġilli, l-orizzonti porużi u permeabbli) u l-formazzjonijiet tal-madwar;

(ċ) il-karatterizzazzjoni tas-sistema tal-ksur u l-preżenza ta' kull passaġġ magħmul mill-bniedem;

(d) l-estensjoni mill-medda u mill-għoli tal-kumpless tal-ħżin;

(e) il-volum tal-ispazju tal-pori (inkluża d-distribuzzjoni tal-porożità);

(f) id-distribuzzjoni bażi tal-fluwidi;

(g) kull karatteristiċi oħra rilevanti.

L-inċertezza assoċjata ma' kull wieħed mill-parametri uzati biex jinbena l-mudell għandha tiġi valutata billi jiġu żviluppati firxa ta' xenarji għal kull parametru u billi jiġu kkalkulati l-limiti adegwati ta' fiduċja. Kull inċertezza assoċjata mal-mudell innifsu għandha wkoll tiġi valutata.

Parti 3: Karatterizzazzjoni tal-kumpless dinamiku tal-ħżin, karatterizzazzjoni tas-sensittività, l-istima tar-riskju

Il-karatterizzazzjoni u l-istima għandhom ikuni bbażati fuq l-immudellar dinamiku, li jikkonsisti varjetà ta' simulazzjonijiet tal-mument tal-injezzjoni tas-CO₂ fis-sit tal-ħżin bl-użu tal-mudell tal-art ġeoloġiku statiku tridimensjonali fis-simulatur kompjuterizzat tal-kumpless tal-ħżin mibni skont il-Parti 2.

Parti 3.1: Karatterizzazzjoni tal-kumpless dinamiku tal-ħżin

Għandhom jitqiesu minn tal-inqas il-fatturi li ġejjin:

- (a) ir-rati possibbli ta' injezzjoni u l-karatteristiċi ta' nixxigħat tas-CO₂;
- (b) l-effikaċja tal-immudellar tal-proċess akkoppjat (eż. l-mod kif effetti uniċi varji fis-simulatur(i) jinteragixxu);
- (c) il-proċessi reattivi (jiġifieri l-mod kif ir-reazzjonijiet tas-CO₂ injettat mal-minerali in situ jirriżultaw fil-mudell);
- (d) is-simulatur tal-ġibjun użat (simulazzjonijiet multipli jistgħu jkunu meħtieġa sabiex jivvalidaw ċerti sejbiet);
- (e) is-simulazzjonijiet fil-qosor u fit-tul (biex jiġi stabbilit l-eżitu u l-kumpless tas-CO₂ matul id-deċenji u l-millenji inkluża r-rata ta' dissoluzzjoni tas-CO₂ fl-ilma).

L-immudellar dinamiku għandu jipprovi tagħrif dwar:

- (f) il-persjoni u t-temperatura tal-formazzjoni tal-ħżin bħala funzjoni tar-rata ta' injezzjoni u l-ammont ta' injezzjoni kumulattiv tul iż-żmien;
- (g) il-wisa' u l-għoli tas-CO₂ maż-żmien;
- (h) in-natura tal-fluss tas-CO₂ fil-ġibjun inkluż il-kumpless tal-faži;
- (i) il-mekkaniżmi tal-ġbir u r-rati tas-CO₂ (inklużi punti ta' tnixxija u sigilli laterali u vertikali);
- (j) is-sistemi sekondarji ta' ġbir fil-kumpless kollu tal-ħżin;
- (k) il-kapaċità tal-ħżin u l-gradjenti tal-persjoni fis-sit tal-ħżin;
- (l) ir-riskju ta' qsim tal-formazzjoni(jiet) tal-ħżin u tal-ġebbla tal-wiċċ;
- (m) ir-riskju tad-dħul tas-CO₂ fil-ġebbla tal-wiċċ;

- (n) ir-riskju ta' tnixxija mis-sit għall-ħżin (eż. minn ġo bjar abbandunati jew mhux issigillati b' mod xieraq);
- (o) ir-rata tal-migrazzjoni (f' ġibjuni miftuħa);
- (p) ir-rati tal-issigillat tal-qsim;
- (q) il-bdil fil-kimika fil-likwidi tal-formazzjoni(jiet) u r-reazzjonijiet sussegwenti tal-formazzjoni(jiet) (eż. bidla fil-pH, fil-formazzjoni minerali) u inklużjoni ta' mmudellar reattiv biex jiġu valutati l-effetti;
- (r) l-ispostament tal-likwidi tal-formazzjoni.
- (s) aktar siżmiċità u elevazzjoni fil-livell tal-wiċċ.

Parti 3.2: Il-karatterizzazzjoni tas-sensittività

Is-simulazzjonijiet multipli għandhom isiru biex tiġi identifikata s-sensittività tal-istima għal assunzjonijiet magħmula dwar parametri partikolari. Is-simulazzjonijiet għandhom ikunu bbażati fuq parametri li jinbidlu fil-mudell(i) tal-art ġeoloġiku/ġeoloġiċi statiku/statiċi, u funzjonijiet ta' rati u ta' assunzjonijiet li jinbidlu fl-eżerċizzju dinamiku ta' mudellar. Kull sensittività sinifikanti għandha titqies fl-istima tar-riskju.

Parti 3.3: L-istima tar-riskju

L-istima tar-riskju għandha tinkludi, *inter alia*, dan li ġej:

3.3 1. Il-karatterizzazzjoni tal-periklu

Il-karatterizzazzjoni tal-periklu għandha ssir billi jiġi kkaratterizzat il-potenzjal tat-tnixxija mill-kumpless tal-ħżin, kif stabbilit permezz tal-immudellar dinamiku u l-karatterizzazzjoni tas-sikurezza deskritti aktar 'il fuq. Dan għandu jinkludi l-konsiderazzjoni ta' inter alia:

- (a) il-passaġġi ta' tnixxija potenzjali;
- (b) il-kobor potenzjali ta' avvenimenti ta' tnixxija għal passaġġi ta' tnixxija identifikati (ir-rati tal-fluss);
- (ċ) il-parametri kritiċi li jaffettwaw it-tnixxija potenzjali (eż. l-pressjoni massima tal-ġibjun, ir-rata massima ta' injezzjoni, it-temperatura, is-sensittività għal assunzjonijiet varji fil-mudell(i) tal-art ġeoloġiku/ġeoloġiċi statiku/statiċi eċċ.);

(d) l-effetti sekondarji tal-ħżin tas-CO₂ inklużi likwidi tal-formazzjoni spostati u sustanzi ġodda maħluqa mill-ħżin tas-CO₂;

(e) kull fattur ieħor li jista' jkun ta' periklu għas-saħħa tal-bniedem jew għall-ambjent (per eżempju strutturi fiżiċi assoċjati mal-proġett).

Il-karatterizzazzjoni tal-periklu għandha tkopri l-firxa sħiħa ta' kundizzjonijiet potenzjali tal-operat biex tiġi ttestjata s-sigurtà tal-kumpless tal-ħżin.

3.3.2. L-istima tal-esponiment — ibbażata fuq il-karatteristiċi tal-ambjent u d-distribuzzjoni u l-attivitajiet tal-popolazzjoni tal-bniedem fuq il-kumpless tal-ħżin, u l-kumpless u l-eżitu potenzjali tas-CO₂ li jnixxi minn passagġi potenzjali identifikati fil-Parti 3.3.1.

3.3.3. L-istima tal-effetti — ibbażata fuq is-sensittività ta' speċji, komunitajiet jew ambjenti naturali partikolari konnessa ma' avvenimenti ta' tnixxija potenzjali identifikati fil-Parti 3.3.1. Meta ikun rilevanti hija għandha tinkludi l-effetti tal-esponiment għal konċentrazzjonijiet għolja ta' CO₂ fil-bijosfera (inkluż ħamrija, sedimenti tal-baħar u ilmijiet bentiċi (*asphyxiation*; *hypercapnia*) u pH imnaqqas f'dawk l-ambjenti minħabba tnixxija ta' CO₂). Hija għandha tinkludi wkoll stima tal-effetti ta' sustanzi oħra li jistgħu jkunu preżenti fi tnixxijiet minn nixxigħat ta' CO₂ (jew impurezzi preżenti fin-nixxiegħa tal-injezzjoni jew sustanzi ġodda ffurmati permezz tal-ħżin tas-CO₂). Dawn l-effetti għandhom jitqiesu fuq firxa ta' skali abbażi taż-żmien u l-post, u konnessi ma' firxa ta' kobor differenti ta' avvenimenti ta' tnixxija.

3.3.4. Il-karatterizzazzjoni tar-riskju — din għandha tikkonsisti minn valutazzjoni tas-sikurezza u tal-integrità tas-sit fiż-żmien qasir jew fit-tul, inkluża stima tar-riskju ta' tnixxija taħt il-kundizzjonijiet proposti ta' użu, u tal-aġar impatti ambjentali u għas-saħħa. Il-karatterizzazzjoni tar-riskju għandha titwettaq fuq bażi tal-istima tal-periklu, tal-esponiment u tal-effetti. Għandha tinkludi stima tas-sorsi ta' incertezza identifikati matul il-passi ta' karatterizzazzjoni u valutazzjoni tas-sit tal-ħżin u fejn ikun vijabbli, deskrizzjoni tal-possibiltajiet biex titnaqqas l-incertezza.

IT-TIENI SKEDA

Regolament 13(2)

KRITERJI GHALL-ISTABILIMENT U L-AĠĠORNAMENT TAL-PJAN TA' MONITORAĠĠ IMSEMMI FIR-REGOLAMENT 13(2) U GHALL-MONITORAĠĠ TA' WARA L-GHELUQ.**L-istabiliment u l-aġġornament tal-pjan ta' monitoraġġ**

Il-pjan ta' monitoraġġ imsemmi fir-regolament 13(2) għandu jiġi stabbilit abbażi tal-analizi tal-istima tar-riskju mwettqa fil-Parti 3 tal-Ewwel Skeda li tinsab ma' dawn ir-regolamenti, u aġġornat bl-iskop li jintlaħqu l-ħtiġiet ta' monitoraġġ stabbiliti fl-regolament 13(1) li jkunu konformi mal-kriterji li ġejjin:

1.1. L-istabiliment tal-pjan

Il-pjan ta' monitoraġġ għandu jipprovdi d-dettalji tal-monitoraġġ li għandu jsir fl-istadji prinċipali tal-proġett, inklużi l-monitoraġġ tal-linja bażi, il-monitoraġġ operattiv, u l-monitoraġġ ta' wara l-għeluq. Dawn li ġejjin għandhom jiġu speċifikati għal kull fażi:

- (a) il-parametri mmonitorjati;
- (b) it-teknoloġija ta' monitoraġġ użata u l-ġustifikazzjoni għall-għażla tat-teknoloġija;
- (ċ) il-lokazzjonijiet tal-monitoraġġ u l-motivazzjoni wara t-teħid ta' kampjuni minn postijiet differenti;
- (d) il-frekwenza tal-applikazzjoni u l-motivazzjoni wara t-teħid ta' kampjuni fi żminijiet differenti. Il-parametri li għandhom jiġu mmonitorjati huma identifikati sabiex jitwettqu l-għanijiet tal-monitoraġġ. Madankollu, il-pjan għandu f'kull każ jinkludi monitoraġġ kontinwu jew intermittenti tal-oġġetti li ġejjin:
 - (e) l-emissjonijiet tas-CO₂ li jaħarbu mill-faċilità tal-injezzjoni;
 - (f) il-fluss volumetrik tas-CO₂ fil-bokki tal-injezzjoni (injection wellheads);
 - (g) il-pressjoni u t-temperatura tas-CO₂ fil-bokki tal-injezzjoni (injection wellheads) (biex jiġi ddeterminat il-fluss tal-massa);
 - (h) l-analizi kimika tal-materjali injettati;

(i) it-temperatura u l-pressjoni tal-ġibjun (biex jiġu ddeterminati l-kumpless u l-istat tas-CO₂ waqt il-fazi). L-għażla tat-teknoloġija tal-monitoraġġ għandha tkun ibbażata fuq l-aħjar Prattika disponibbli fiż-żmien tad-disinn. L-alternattivi li ġejjin għandhom jitqiesu u jiġu użati kif xieraq:

(j) it-teknoloġiji li jistgħu jindividwaw il-preżenza, il-lok u l-passaġġi ta' migrazzjoni tas-CO₂ taht il-wiċċ u fil-wiċċ;

(k) it-teknoloġiji li jipprovdu tagħrif dwar il-kumpless tal-pressjoni/volum u d-distribuzzjoni tas-saturazzjoni fil-wisa' u fl-għoli tal-formazzjoni tas-CO₂ biex tkun irfinuta s-simulazzjoni numerika 3-D għall-mudelli ġeoloġiċi 3-D tal-formazzjoni tal-ħzin stabbiliti skont ir-regolament 4 ta' dawn ir-regolamenti u tal-Ewwel Skeda li tinsab ma' dawn ir-regolamenti;

(l) it-teknoloġiji li jistgħu jipprovdu firxa wiesgħa fil-wisa' sabiex jingabar it-tagħrif dwar kull passaġġi ta' tnixxija li ma jkunux ġew individwati qabel matul id-dimensjonijiet fil-wisa' tal-kumpless tal-ħzin komplut u lil hinn, f'każ ta' irregolaritajiet sinifikanti jew migrazzjoni tas-CO₂ barra mill-kumpless tal-ħzin.

1.2. L-aġġornament tal-pjan

Id-data miġbura mill-monitoraġġ għandha tiġi mqabbla u tiġi interpretata. Ir-rizultati osservati għandhom jiġu mqabbla mal-kumpless imbassar fis-simulazzjoni dinamika tal-kumpless pressjoni/volum u saturazzjoni 3-D magħmula fil-kuntast tal-karatterizzazzjoni tas-sikurezza taht ir-regolament 4 ta' dawn ir-regolamenti 4 u Parti 3 tal-Ewwel Skeda. Fejn ikun hemm devjazzjoni sinifikanti bejn il-kumpless osservat u dak imbassar, il-mudell 3-D għandu jiġi kalibrat mill-ġdid biex jirrifletti l-kumpless osservat. Il-kalibrazzjoni mill-ġdid għandha tkun ibbażata fuq l-osservazzjonijiet tad-data mill-pjan ta' monitoraġġ, u fejn ikun meħtieġ biex tippermetti fiduċja fl-assunzjonijiet tal-kalibrazzjoni mill-ġdid, għandha tinkiseb data addizzjonali.

Parti 2 u 3 tal-Ewwel Skeda li tinsab ma' dawn ir-regolamenti għandhom jiġu ripetuti bl-użu tal-mudell(i) 3-D ikkalibrat(i) mill-ġdid sabiex jiġu ġġenerati xenarji tal-periklu u ta' rati tal-fluss godda u biex tiġi riveduta u aġġornata l-istima tar-riskju.

Fejn jiġu identifikati sorsi tas-CO₂, passaġġi u rati tal-fluss godda jew jiġu identifikati devjazzjonijiet sinifikanti osservati minn stimi preċedenti bħala rizultat tat-tqabbil tal-istorja u l-kalibrazzjoni mill-ġdid tal-mudell, il-pjan ta' monitoraġġ għandu jiġi aġġornat kif meħtieġ.

2. Il-monitoraġġ ta' wara l-għeluq

Il-monitoraġġ ta' wara l-għeluq għandu jkun ibbażat fuq it- tagħrif miġbur u mmudellat matul l-implimentazzjoni tal-pjan ta' monitoraġġ imsemmi fir-regolament 13(2) u aktar 'il fuq fil-punt 1.2 ta' din l-Iskeda. Għandu jservi b'mod partikolari biex jiġi pprovdut tagħrif meħtieġ għad-determinazzjoni tar-regolament 18(1).

L.N. 346 of 2011

**ENVIRONMENT AND DEVELOPMENT PLANNING ACT
(CAP. 504)**

**MALTA RESOURCES AUTHORITY ACT
(CAP. 423)**

**TERRITORIAL WATERS AND CONTIGUOUS ZONE ACT
(CAP. 226)**

**CONTINENTAL SHELF ACT
(CAP. 194)**

Geological Storage of Carbon Dioxide Regulations, 2011

IN exercise of the powers conferred by article 28 (1) of the Malta Resources Authority Act, by articles 3 (2), 4, 7 (1) of the Territorial Waters and Contiguous Zone Act, article 3 of the Continental Shelf Act and articles 2, 8, 61, 64 and 66, of the Environment and Development Planning Act, the Prime Minister, and the Minister for Resources and Rural Affairs, after consultation with the Malta Resources Authority and the Malta Environment and Planning Authority, have made the following regulations:-

1. (1) The title of these regulations is the Geological Storage of Carbon Dioxide Regulations, 2011.

Title, scope and commencement.

(2) These regulations transpose Directive 2009/31/EC on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) No 1013/2006.

(3) The scope of these regulations is to establish a legal framework for the environmentally safe geological storage of carbon dioxide (CO₂) to contribute to the fight against climate change. The purpose of environmentally safe geological storage of CO₂ is permanent containment of CO₂ in such a way as to prevent and, where this is not possible, eliminate as far as possible negative effects and any risk to the environment and human health.

(4) These regulations shall enter into force on the 29th August, 2011.

Applicability.

2. (1) These regulations shall apply to the geological storage of CO₂ in Malta and on the continental shelf within the meaning of the United Nations Convention on the Law of the Sea (Unclos).

(2) These regulations shall not apply to geological storage of CO₂ with a total intended storage below 100 kilotonnes, undertaken for research, development or testing of new products and processes.

(3) The storage of CO₂ in a storage site with a storage complex extending beyond the area referred to in sub-regulation (1) hereof shall be prohibited.

(4) The storage of CO₂ in the water column shall be prohibited.

Interpretation.

3. (1) Unless otherwise stated in these regulations, the definitions in the Act shall apply.

(2) In these regulations, unless the context otherwise requires:

“the Act” means the Malta Resources Authority Act;

“closure of a storage site” means the definitive cessation of CO₂ injection into that storage site;

“CO₂ plume” means the dispersing volume of CO₂ in the geological formation;

“CO₂ stream” means a flow of substances that results from CO₂ capture processes;

“the Commission” means the European Commission as established by the Treaty on the European Union as amended by subsequent Treaties;

“the Community” means the European Community as established by the Treaty on the European Union as amended by subsequent Treaties;

“the Competent Authority” means the Office of the Prime Minister, and such other body or person as the Prime Minister may prescribe and designate as the Competent Authority for different purposes in terms of different provisions of these regulations;

“corrective measures” means any measures taken to correct significant irregularities or to close leakages in order to prevent or stop the release of CO₂ from the storage complex;

“exploration” means the assessment of potential storage complexes for the purposes of geologically storing CO₂ by means of activities intruding into the subsurface such as drilling to obtain geological information about strata in the potential storage complex and, as appropriate, carrying out injection tests in order to characterise the storage site;

“exploration permit” means a written and reasoned decision authorising exploration, and specifying the conditions under which it may take place, issued by the Competent Authority pursuant to the requirements of these regulations and any other applicable law;

“geological formation” means a lithostratigraphical subdivision within which distinct rock layers can be found and mapped;

“geological storage of CO₂” means injection accompanied by storage of CO₂ streams in underground geological formations;

“hydraulic unit” means a hydraulically connected pore space where pressure communication can be measured by technical means and which is bordered by flow barriers, such as faults, salt domes, lithological boundaries, or by the wedging out or outcropping of the formation;

“leakage” means any release of CO₂ from the storage complex;

“Malta Environment and Planning Authority” means the Malta Environment and Planning Authority established under article 6 of the Environment and Development Planning Act, 2010; Cap. 504.

“migration” means the movement of CO₂ within the storage complex;

“operator” means any natural or legal, private or public person who operates or controls the storage site or to whom decisive economic power over the technical functioning of the storage site has been delegated according to applicable legislation;

“post-closure” means the period after the closure of a storage site, including the period after the transfer of responsibility to the Competent Authority;

“significant irregularity” means any irregularity in the injection or storage operations or in the condition of the storage complex itself, which implies the risk of a leakage or risk to the environment or human health;

“significant risk” means a combination of a probability of occurrence of damage and a magnitude of damage that cannot be disregarded without calling into question the purpose of these regulations for the storage site concerned;

“storage complex” means the storage site and surrounding geological domain which can have an effect on overall storage integrity and security; that is, secondary containment formations;

“storage permit” means a written and reasoned decision or decisions authorising the geological storage of CO₂ in a storage site by the operator, and specifying the conditions under which it may take place, issued by the Competent Authority pursuant to the requirements of these regulations and any other applicable law;

“storage site” means a defined volume area within a geological formation used for the geological storage of CO₂ and associated surface and injection facilities;

“substantial change” means any change not provided for in the storage permit, which may have significant effects on the environment or human health;

“transport network” means the network of pipelines, including associated booster stations, for the transport of CO₂ to the storage site.

“waste” means the substances defined as waste in regulation 2 of the Waste Management (Permit and Control) Regulations, 2001;

L.N. 337 of 2001.

“water column” means the vertically continuous mass of water from the surface to the bottom sediments of a water body.

4. (1) The Competent Authority shall retain the right to determine the areas within the meaning of sub-regulation (1) of regulation 2 of these regulations from which storage sites may be selected pursuant to the requirements of these regulations and any other applicable law. This includes the right of the Competent Authority not to allow for any storage in parts or in the whole of those areas.

Selection of storage sites.

(2) The suitability of a geological formation for use as a storage site shall be determined through a characterisation and assessment of the potential storage complex and surrounding area pursuant to the criteria specified in the First Schedule to these regulations.

(3) A geological formation shall only be selected as a storage site, if under the proposed conditions of use there is no significant risk of leakage, and if no significant environmental or health risks exist.

5. (1) Where the Competent Authority decides that exploration is required to generate the information necessary for selection of storage sites pursuant to regulation 4 of these regulations, an exploration permit issued by the Competent Authority shall be required for the carrying out of any exploration. Where appropriate, monitoring of injection tests may be included in the exploration permit.

Exploration permits.

(2) The procedures for the granting of exploration permits shall be open to all entities possessing the necessary capacities. Permits shall be granted or refused by the Competent Authority on the basis of objective, published and non-discriminatory criteria.

(3) The duration of a permit shall not exceed the period necessary to carry out the exploration for which it is granted. The Competent Authority may extend the validity of the permit where the stipulated duration is insufficient to complete the exploration

concerned and where the exploration has been performed in accordance with the permit. Exploration permits shall be granted in respect of a limited volume area.

(4) The Competent Authority may include any condition in the exploration permit as it may deem necessary and expedient.

(5) The holder of an exploration permit shall have the sole right to explore the potential CO₂ storage complex. No conflicting uses of the complex are to be permitted during the period of validity of the permit.

Storage permits.

6. (1) The operation of a storage site without a storage permit shall be prohibited.

(2) Only one operator for each storage site shall be permitted by the Competent Authority and no conflicting uses shall be permitted on the site.

(3) The procedures for the granting of storage permits shall be open to all entities possessing the necessary capacities. Permits shall be granted by the Competent Authority on the basis of objective, published and transparent criteria.

(4) Without prejudice to the requirements of these regulations and of the requirements of any other applicable law, priority for the granting of a storage permit for a particular site shall be given to the holder of the exploration permit for that site:

Provided that the exploration of that site is completed, that any condition set in the exploration permit has been complied with, and that the application for a storage permit is made during the period of validity of the exploration permit.

(5) Conflicting uses of the complex during the permit procedure shall be prohibited.

(6) The operator shall pay to the Competent Authority any cost incurred in the course of the issue of the storage permit and for the regulation of the operations so permitted.

Applications for storage permits.

7. Applications to the Competent Authority for storage permits shall include at least the following information:

- (a) the name and address of the potential operator;
- (b) proof of the technical competence of the potential operator;
- (c) the characterisation of the storage site and storage complex and an assessment of the expected security of the storage pursuant to sub-regulations (2) and (3) of regulation 4 of these regulations;
- (d) the total quantity of CO₂ to be injected and stored, as well as the prospective sources and transport methods, the composition of CO₂ streams, the injection rates and pressures, and the location of injection facilities;
- (e) a description of measures to prevent significant irregularities;
- (f) a proposed monitoring plan pursuant to sub-regulation (2) of regulation 13 of these regulations;
- (g) a proposed corrective measures plan pursuant to sub-regulation (2) of regulation 16 of these regulations;
- (h) a proposed provisional post-closure plan pursuant to sub-regulation (3) of regulation 17 of these regulations;
- (i) the information provided pursuant to regulation 5 of the Environmental Impact Assessment Regulations, 2007; L.N. 114 of 2007.
- (j) proof that the financial security or other equivalent provision as required under regulation 19 of these regulations shall be valid and effective before the commencement of the injection.

8. The Competent Authority shall issue a storage permit only if the following conditions are met: Conditions for storage permits.

(a) the Competent Authority, on the basis of the application submitted pursuant to regulation 7 of these regulations and of any other relevant information, is satisfied that:

- (i) all relevant requirements of these regulations and of other relevant laws are met;

(ii) the operator is financially sound and technically competent and reliable to operate and control the site and that professional and technical development and training of the operator and all staff are provided;

(iii) in the case of more than one storage site in the same hydraulic unit, the potential pressure interactions are such that both sites can simultaneously meet the requirements of these regulations and of any other applicable law; and

(b) the Competent Authority has considered any opinion of the Commission on the draft permit issued pursuant to regulation 10 of these regulations.

Contents of storage permits.

9. The permit shall contain at least the following:

(a) the name and address of the operator;

(b) the precise location and delimitation of the storage site and storage complex, and information concerning the hydraulic unit;

(c) the requirements for storage operation, the total quantity of CO₂ authorised to be geologically stored, the reservoir pressure limits, and the maximum injection rates and pressures;

(d) the requirements for the composition of the CO₂ stream and the CO₂ stream acceptance procedure pursuant to regulation 12 of these regulations, and, if necessary, further requirements for injection and storage in particular to prevent significant irregularities;

(e) the approved monitoring plan, the obligation to implement the plan and requirements for updating it pursuant to regulation 13 of these regulations as well as the reporting requirements pursuant to regulation 14 of these regulations;

(f) the requirement to notify the Competent Authority in the event of leakages or significant irregularities, the approved corrective measures plan and the obligation to implement the corrective measures plan in the event of leakages or significant irregularities pursuant to regulation 16 hereof;

(g) the conditions for closure and the approved provisional post-closure plan referred to in regulation 17 of these regulations;

(h) any provisions on changes, review, updating and withdrawal of the storage permit pursuant to regulation 11 of these regulations;

(i) the requirement to establish and maintain the financial security or any other equivalent pursuant to regulation 19 of these regulations.

10. (1) The Competent Authority shall make the permit applications available to the Commission within one month after receipt. The Competent Authority shall also make available to the Commission other related material that shall be taken into account by the Competent Authority when it seeks to make a decision on the award of a storage permit. The Competent Authority shall inform the Commission of all draft storage permits and any other material taken into consideration for the adoption of the draft decision.

Commission review of draft storage permits.

(2) The Competent Authority shall notify the final decision to the Commission, and where it departs from the opinion delivered by the Commission, it shall give reasons for its decision.

11. (1) The operator shall inform the Competent Authority of any changes planned in the operation of the storage site, including changes concerning the operator. Where it deems appropriate, the Competent Authority shall update the storage permit or the permit conditions.

Changes, review, update and withdrawal of storage permits.

(2) No substantial change may be implemented without a new or updated storage permit issued in accordance with these regulations. Point 10 of Schedule 1A to the Environmental Impact Assessment Regulations, 2007 regarding changes or extensions to approved projects shall mutatis mutandis apply in such cases.

(3) The Competent Authority shall review and where necessary update or, as a last resort, withdraw the storage permit:

(a) if it has been notified or made aware of any leakages or significant irregularities pursuant to sub-regulations (1) of regulation 16 of these regulations;

(b) if the reports submitted pursuant to regulation 14 of these regulations or the environmental inspections carried out pursuant to regulation 15 of these regulations show non-compliance with permit conditions or risks of leakages or significant irregularities;

(c) if it is aware of any other failure by the operator to meet the permit conditions;

(d) if it appears necessary on the basis of the latest scientific findings and technological progress; or

(e) without prejudice to paragraphs (a) to (d) of this sub-regulation, five years after issuing the permit and every ten years thereafter.

(4) After a permit has been withdrawn pursuant to sub-regulation 3 hereof, the Competent Authority shall either issue a new storage permit or close the storage site pursuant to paragraph (c) of sub-regulation (1) of regulation 17 of these regulations. Until a new storage permit has been issued, the Competent Authority shall temporarily take over all legal obligations relating to acceptance criteria where the Competent Authority decides to continue CO₂ injections, monitoring and corrective measures pursuant to the requirements laid down in these regulations, the surrender of allowances in cases of leakage pursuant to the European Community Greenhouse Gas Emissions Trading Scheme Regulations, 2005, and preventive and remedial action pursuant to regulations 6 and 7 of the Prevention and Remedying of Environmental Damage Regulations, 2008. The Competent Authority shall recover any costs incurred from the former operator, including by drawing on the financial security referred to in regulation 19 of these regulations. In case of closure of the storage site pursuant to paragraph (c) of sub-regulation (1) of regulation 17 of these regulations, sub-regulation (4) of regulation 17 of these regulations shall apply.

L.N. 140 of 2005.

L.N. 126 of 2008.

CO₂ stream
acceptance criteria
and procedure.

12. (1) A CO₂ stream shall consist overwhelmingly of carbon dioxide. To this end, no waste or other matter may be added for the purpose of disposing of that waste or other matter. However, a CO₂ stream may contain incidental associated substances from the source, capture or injection process and trace substances added to assist in monitoring and verifying CO₂ migration. Concentrations of all incidental and added substances shall be below levels that would:

(a) adversely affect the integrity of the storage site or the relevant transport infrastructure;

(b) pose a significant risk to the environment or human health; or

(c) breach the requirements of applicable Community legislation.

(2) The operator shall:

(a) accept and inject CO₂ streams only if an analysis of the composition, including corrosive substances, of the streams and a risk assessment have been carried out, and if the risk assessment has shown that the contamination levels are inline with the conditions referred to in sub-regulation (1) hereof;

(b) keeps a register of the quantities and properties of the CO₂ streams delivered and injected, including the composition of those streams.

13. (1) The operator shall carry out monitoring of the injection facilities, the storage complex (including where possible the CO₂ plume), and where appropriate the surrounding environment for the purpose of: Monitoring.

(a) comparison between the actual and modelled behaviour of CO₂ and formation water in the storage site;

(b) detecting significant irregularities;

(c) detecting migration of CO₂;

(d) detecting leakage of CO₂;

(e) detecting significant adverse effects for the surrounding environment, including in particular on drinking water, for human populations, or for users of the surrounding biosphere;

(f) assessing the effectiveness of any corrective measures taken pursuant to regulation 16 hereof;

(g) updating the assessment of the safety and integrity of the storage complex in the short and long term, including the assessment of whether the stored CO₂ will be completely and permanently contained.

(2) The monitoring required to be carried out by the operator in terms of sub-regulation (1) hereof shall be based on a monitoring plan designed by the operator pursuant to the requirements laid down in the Second Schedule to these regulations, including details on the monitoring in accordance with the guidelines established pursuant to regulation 13 of the European Community Greenhouse Gas Emissions Trading Scheme Regulations, 2005 submitted to and approved by the Competent Authority pursuant to paragraph (f) of regulation 7 and paragraph (e) of sub-regulation (5) of regulation 9 of these regulations. The plan shall be updated pursuant to the requirements laid down in the Second Schedule to these regulations and in any case every five years to take account of changes to the assessed risk of leakage, changes to the assessed risks to the environment and human health, new scientific knowledge, and improvements in best available technology. Updated plans shall be re-submitted for approval to the Competent Authority.

Reporting by the operator.

14. The operator shall submit to the Competent Authority at a frequency required by the Competent Authority, and in any event at least once a year:

(a) all results of the monitoring pursuant to regulation 13 of these regulations in the reporting period, including information on the monitoring technology employed;

(b) the quantities and properties of the CO₂ streams delivered and injected, including composition of those streams, in the reporting period, registered pursuant to paragraph (b) of sub-regulation (2) of regulation 12 of these regulations;

(c) proof of the putting in place and maintenance of the financial security pursuant to regulation 19 and paragraph (i) of regulation 9 of these regulations;

(d) any other information the Competent Authority considers relevant for the purposes of assessing compliance with storage permit conditions and increasing the knowledge of CO₂ behaviour in the storage site.

15. (1) The Competent Authority shall organise a system of routine and non-routine inspections of all storage complexes within the scope of these regulations for the purposes of checking and promoting compliance with the requirements of these regulations and of monitoring the effects on the environment and on human health. ^{Inspections.}

(2) Inspections should include activities such as visits of the surface installations, including the injection facilities, assessing the injection and monitoring operations carried out by the operator, and checking all relevant records kept by the operator.

(3) Routine inspections shall be carried out at least once a year until three years after closure and every five years until transfer of responsibility to the Competent Authority has occurred. The Competent Authority shall examine the relevant injection and monitoring facilities as well as the full range of relevant effects from the storage complex on the environment and on human health.

(4) Non-routine inspections shall be carried out:

(a) if the Competent Authority has been notified or made aware of leakages or significant irregularities pursuant to sub-regulation (1) of regulation 16 of these regulations;

(b) if the reports pursuant to regulation 14 of these regulations have shown insufficient compliance with the permit conditions;

(c) to investigate serious complaints related to the environment or human health;

(d) in other situations where the Competent Authority considers this appropriate.

(5) Following each inspection, the Competent Authority shall prepare a report on the results of the inspection. The report shall evaluate compliance with the requirements of these regulations and indicate whether or not further action is necessary. The report shall be communicated to the operator concerned and shall be publicly available in accordance with relevant Community legislation within two months of the inspection.

Measures in case of leakages or significant irregularities.

16. (1) In the event of leakages or significant irregularities, the operator shall immediately notify the Competent Authority, and shall take the necessary corrective measures, including measures related to the protection of human health. In cases of leakages and significant irregularities which imply the risk of leakage, the operator shall also notify the Competent Authority pursuant to the European Community Greenhouse Gas Emissions Trading Scheme Regulations, 2005.

(2) The corrective measures referred to in sub-regulation (1) of this regulation shall be taken as a minimum on the basis of a corrective measures plan submitted to and approved by the Competent Authority pursuant to paragraph (g) of regulation 7 of these regulations and paragraph (f) of regulation 9 of these regulations.

(3) The Competent Authority may at any time require the operator to take the necessary corrective measures, as well as measures related to the protection of human health. These may be additional to or different from those laid out in the corrective measures plan. The Competent Authority may also at any time take corrective measures itself.

(4) If the operator fails to take the necessary corrective measures, the Competent Authority shall take the necessary corrective measures itself.

(5) The Competent Authority shall recover the costs incurred in relation to the measures referred to in sub-regulations (3) and (4) hereof from the operator, including by drawing on the financial security pursuant to regulation 19 of these regulations.

Closure and post-closure obligations.

17. (1) A storage site shall be closed:

(a) if the relevant conditions stated in the permit have been met;

(b) at the substantiated request of the operator, after authorisation of the Competent Authority; or

(c) if the Competent Authority so decides after the withdrawal of a storage permit pursuant to sub-regulation (3) of regulation 11 of these regulations.

(2) After a storage site has been closed pursuant to paragraphs (a) or (b) of sub-regulation (1) hereof, the operator remains responsible for monitoring, reporting and corrective measures, pursuant to the requirements laid down in these regulations, and for all obligations relating to the surrender of allowances in case of leakages pursuant to the European Community Greenhouse Gas Emissions Trading Scheme Regulations, 2005, and preventive and remedial action pursuant to regulations 6 and 7 of the Prevention and Remedying of Environmental Damage Regulations, 2008 until the responsibility for the storage site is transferred to the Competent Authority pursuant to sub-regulations (1) to (5) of regulation 18 of these regulations. The operator shall also be responsible for sealing the storage site and removing the injection facilities.

(3) The obligations referred to in sub-regulation (2) hereof shall be fulfilled on the basis of a post-closure plan designed by the operator based on best practice and in accordance with the requirements laid down in the Second Schedule to these regulations. A provisional post-closure plan shall be submitted to and approved by the Competent Authority pursuant to paragraph (h) of regulation 7 of these regulations and paragraph (g) of regulation 9 of these regulations. Prior to the closure of a storage site pursuant to paragraphs (a) or (b) of sub-regulation (1) hereof, the provisional post-closure plan shall be:

- (a) updated as necessary, taking account of risk analysis, best practice and technological improvements;
- (b) submitted to the Competent Authority for its approval; and
- (c) approved by the Competent Authority as the definitive post-closure plan.

(4) After a storage site has been closed pursuant to paragraph (c) of sub-regulation (1) hereof, the Competent Authority shall be responsible for monitoring and corrective measures pursuant to the requirements laid down in these regulations and for all obligations relating to the surrender of allowances in case of leakages pursuant to the European Community Greenhouse Gas Emissions Trading Scheme Regulations, 2005, and preventive and remedial action pursuant to regulations 6 (1) and 7 (1) of the Prevention and Remedying of Environmental Damage Regulations, 2008. The post-closure requirements pursuant to these regulations

shall be fulfilled by the Competent Authority on the basis of the provisional post-closure plan referred to in sub-regulation (3) hereof, which shall be updated as necessary.

Closure and
post-closure
obligations.

18. (1) Where a storage site has been closed pursuant to paragraphs (a) or (b) of sub-regulation (1) of regulation 17 of these regulations, all legal obligations relating to monitoring and corrective measures pursuant to the requirements laid down in these regulations, the surrender of allowances in the event of leakages pursuant to the European Community Greenhouse Gas Emissions Trading Scheme Regulations, 2005, and preventive and remedial action pursuant to regulations 6 (1) and 7 (1) of the Prevention and Remedying of Environmental Damage Regulations, 2008 shall be transferred to the Competent Authority on its own initiative or upon request from the operator, if the following conditions are met:

(a) all available evidence indicates that the stored CO₂ will be completely and permanently contained;

(b) a minimum period, to be determined by the Competent Authority has elapsed. This minimum period shall be no shorter than 20 years, unless the Competent Authority is convinced that the criterion referred to in paragraph (a) is complied with before the end of that period;

(c) the financial obligations referred to in regulation 20 of these regulations have been fulfilled;

(d) the site has been sealed and the injection facilities have been removed.

(2) The operator shall prepare a report documenting that the condition referred to in paragraph (a) of sub-regulation (1) hereof has been met and shall submit it to the Competent Authority for the latter to approve the transfer of responsibility. This report shall demonstrate, at least:

(a) the conformity of the actual behaviour of the injected CO₂ with the modelled behaviour;

(b) the absence of any detectable leakage;

(c) that the storage site is evolving towards a situation of long-term stability.

(3) Where the Competent Authority is satisfied that the conditions referred to in paragraphs (a) and (b) of sub-regulation (1) hereof are met, it shall prepare a draft decision of approval of the transfer of responsibility. The draft decision shall specify the method for determining that the conditions referred to in paragraph (d) of sub-regulation (1) hereof have been met as well as any updated requirements for the sealing of the storage site and for the removal of injection facilities. If the Competent Authority considers that the conditions referred to in paragraphs (a) and (b) of sub-regulation (1) hereof are not met, it shall inform the operator of its reasons.

(4) Where the Competent Authority is satisfied that the conditions referred to in paragraphs (a) to (d) of sub-regulation (1) hereof are complied with, it shall adopt the final decision and notify that decision to the operator. The Competent Authority shall also notify the final decision to the Commission, and where it departs from an opinion which may be issued by the Commission, it shall give reasons for such decision.

(5) After the transfer of responsibility, routine inspections provided for in sub-regulation (3) of regulation 15 of these regulations shall cease and monitoring may be reduced to a level which allows for detection of leakages or significant irregularities. If any leakages or significant irregularities are detected, monitoring shall be intensified as required to assess the scale of the problem and the effectiveness of corrective measures.

(6) In cases where there has been fault on the part of the operator, including cases of deficient data, concealment of relevant information, negligence, wilful deceit or a failure to exercise due diligence, the Competent Authority shall recover from the former operator the costs incurred after the transfer of responsibility has taken place. Without prejudice to regulation 20 of these regulations, there shall be no further recovery of costs after the transfer of responsibility.

(7) Where a storage site has been closed pursuant to paragraph (c) of sub-regulation (1) of regulation 17 of these regulations, transfer of responsibility shall be deemed to take place if and when all available evidence indicates that the stored CO₂ will be completely and permanently contained, and after the site has been sealed and the injection facilities have been removed.

Financial security.

19. (1) The potential operator shall present proof, as part of the application for a storage permit, that adequate provisions can be established, by way of financial security or any other equivalent and on the basis of arrangements established by the Competent Authority which may include financial security instruments, bank guarantees and adequate insurance cover, in order to ensure that all obligations arising under the permit issued pursuant to these regulations, including closure and post-closure requirements, as well as any obligations arising from inclusion of the storage site under the European Community Greenhouse Gas Emissions Trading Scheme Regulations, 2005 can be met. This financial security shall be valid and effective before commencement of injection.

(2) The financial security shall be periodically adjusted to take account of changes to the assessed risk of leakage and the estimated costs of all obligations arising under the permit issued pursuant to these regulations as well as any obligations arising from inclusion of the storage site under the European Community Greenhouse Gas Emissions Trading Scheme Regulations, 2005.

(3) The financial security or any other equivalent referred to in sub-regulation (1) hereof shall remain valid and effective:

(a) after a storage site has been closed pursuant to paragraphs (a) or (b) of sub-regulation (1) of regulation 17 of these regulations, until the responsibility for the storage site is transferred to the Competent Authority pursuant to sub-regulations (1) to (5) of regulation 18 of these regulations;

(b) after the withdrawal of a storage permit pursuant to sub-regulation (3) of regulation 11 of these regulations:

(i) until a new storage permit has been issued;

(ii) where the site is closed pursuant to paragraph (c) of sub-regulation (1) of regulation 17 of these regulations, until the transfer of responsibility pursuant to sub-regulation (7) of regulation 18 of these regulations:

Provided that the financial obligations referred to in regulation 20 of these regulations have been fulfilled.

20. The operator shall, on the basis of arrangements established by the Competent Authority, make a financial contribution available to the Competent Authority before the transfer of responsibility pursuant to regulation 18 of these regulations has taken place. The contribution from the operator shall take into account those criteria referred to in the First Schedule to these regulations and elements relating to the history of storing CO₂ relevant to determining the post-transfer obligations, and cover at least the anticipated cost of monitoring for a period of 30 years. This financial contribution may be used to cover the costs borne by the Competent Authority after the transfer of responsibility to ensure that the CO₂ is completely and permanently contained in geological storage sites after the transfer of responsibility.

Financial mechanism.

21. (1) The Competent Authority shall establish and maintain:

Registers.

(a) a register of the storage permits granted; and

(b) a permanent register of all closed storage sites and surrounding storage complexes, including maps and sections of their spacial extent and available information relevant for assessing that the stored CO₂ will be completely and permanently contained.

(2) The registers referred to in sub-regulation (1) hereof shall be taken into consideration by the Malta Environment and Planning Authority in relevant planning procedures when permitting any activity that could affect or be affected by the geological storage of CO₂ in the registered storage sites.

22. The Competent Authority shall make available to the public environmental information relating to the geological storage of CO₂ in accordance with the applicable Community legislation.

Information to the public.

23. The Competent Authority may issue guidelines, in regard to the provisions of these regulations.

Guidelines.

24. (1) The Competent Authority may issue a compliance order against any person who in its opinion has contravened any of the provisions of these regulations or a condition of a licence or authorisation issued thereunder.

Compliance orders.

(2) Any person who fails to abide by the provisions of a compliance order issued by the Competent Authority shall, without prejudice to any other liability under these regulations, the Act or any other law, be guilty of an offence and be liable, on conviction, to a fine (multa) of not less than one thousand euro (€1,000) and of not more than sixty thousand euro (€60,000) for each day during which the failure to comply subsists.

Offences.

25. (1) Any person who contravenes any of the provisions of these regulations or of a permit or licence condition or of an authorisation or approval issued thereunder, shall be guilty of an offence and shall, on conviction, be liable to a fine (multa) of not more than sixty-nine thousand euro (€69,000) or for one thousand and three hundred euro (€1,300) for each day during which the offence persists.

(2) Any person who, when information with respect to these regulations is requested or required by the Competent Authority, knowingly or recklessly:-

(a) gives any false, inaccurate or misleading information;

or

(b) supplies incomplete information; or

(c) fails, without reasonable cause, to supply information requested within the time given; or

(d) prevents or hinders any investigation; or

(e) produces or furnishes, or causes or knowingly allows to be produced or furnished, any document or information which he knows to be false in any material respect,

shall be guilty of an offence. and shall, on conviction, be liable to a fine (multa) of not less than one thousand euro (€1,000) and of not more than sixty thousand euro (€60,000) for each day during which the offence subsists.

FIRST SCHEDULE

Regulation 4(2)

**CRITERIA FOR THE CHARACTERISATION AND ASSESSMENT OF
THE POTENTIAL STORAGE COMPLEX AND SURROUNDING AREA
REFERRED TO IN REGULATION 4(2)**

The characterisation and assessment of the potential storage complex and surrounding area referred to in regulation 4(2) shall be carried out in three steps according to best practices at the time of the assessment and to the following criteria. Derogations from one or more of these criteria may be permitted by the Competent Authority provided the operator has demonstrated that the capacity of the characterisation and assessment to enable the determinations pursuant to regulation 4 of these regulations is not affected.

Step 1: Data collection

Sufficient data shall be accumulated to construct a volumetric and three-dimensional static (3-D)-earth model for the storage site and storage complex, including the caprock, and the surrounding area, including the hydraulically connected areas. This data shall cover at least the following intrinsic characteristics of the storage complex:

- (a) geology and geophysics;
- (b) hydrogeology (in particular existence of ground water intended for consumption);
- (c) reservoir engineering (including volumetric calculations of pore volume for CO₂ injection and ultimate storage capacity);
- (d) geochemistry (dissolution rates, mineralisation rates);
- (e) geomechanics (permeability, fracture pressure);
- (f) seismicity;
- (g) presence and condition of natural and man-made pathways, including wells and boreholes which could provide leakage pathways.

The following characteristics of the complex vicinity shall be documented:

- (h) domains surrounding the storage complex that may be affected by the storage of CO₂ in the storage site;

(i) population distribution in the region overlying the storage site;

(j) proximity to valuable natural resources (including in particular Natura 2000 areas pursuant to Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds and Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, potable groundwater and hydrocarbons);

(k) activities around the storage complex and possible interactions with these activities (for example, exploration, production and storage of hydrocarbons, geothermal use of aquifers and use of underground water reserves);

(l) proximity to the potential CO₂ source(s) (including estimates of the total potential mass of CO₂ economically available for storage) and adequate transport networks.

Step 2: Building the three-dimensional static geological earth model

Using the data collected in Step 1, a three-dimensional static geological earth model, or a set of such models, of the candidate storage complex, including the caprock and the hydraulically connected areas and fluids shall be built using computer reservoir simulators. The static geological earth model(s) shall characterise the complex in terms of:

(a) geological structure of the physical trap;

(b) geomechanical, geochemical and flow properties of the reservoir overburden (caprock, seals, porous and permeable horizons) and surrounding formations;

(c) fracture system characterisation and presence of any human-made pathways;

(d) areal and vertical extent of the storage complex;

(e) pore space volume (including porosity distribution);

(f) baseline fluid distribution;

(g) any other relevant characteristics.

The uncertainty associated with each of the parameters used to build the model shall be assessed by developing a range of scenarios for each parameter and calculating the appropriate confidence limits. Any uncertainty associated with the model itself shall also be assessed.

Step 3: Characterisation of the storage dynamic behaviour, sensitivity characterisation, risk assessment

The characterisations and assessment shall be based on dynamic modelling, comprising a variety of time-step simulations of CO₂ injection into the storage site using the three-dimensional static geological earth model(s) in the computerised storage complex simulator constructed under Step 2.

Step 3.1: Characterisation of the storage dynamic behaviour

At least the following factors shall be considered:

- (a) possible injection rates and CO₂ stream properties;
- (b) the efficacy of coupled process modelling (that is, the way various single effects in the simulator(s) interact);
- (c) reactive processes (that is, the way reactions of the injected CO₂ with in situ minerals feedback in the model);
- (d) the reservoir simulator used (multiple simulations may be required in order to validate certain findings);
- (e) short and long-term simulations (to establish CO₂ fate and behaviour over decades and millennia, including the rate of dissolution of CO₂ in water).

The dynamic modelling shall provide insight into:

- (f) pressure and temperature of the storage formation as a function of injection rate and accumulative injection amount over time;
- (g) areal and vertical extent of CO₂ vs time;
- (h) the nature of CO₂ flow in the reservoir, including phase behaviour;
- (i) CO₂ trapping mechanisms and rates (including spill points and lateral and vertical seals);
- (j) secondary containment systems in the overall storage complex;
- (k) storage capacity and pressure gradients in the storage site;
- (l) the risk of fracturing the storage formation(s) and caprock;
- (m) the risk of CO₂ entry into the caprock;

(n) the risk of leakage from the storage site (for example, through abandoned or inadequately sealed wells);

(o) the rate of migration (in open-ended reservoirs);

(p) fracture sealing rates;

(q) changes in formation(s) fluid chemistry and subsequent reactions (for example, pH change, mineral formation) and inclusion of reactive modelling to assess affects;

(r) displacement of formation fluids;

(s) increased seismicity and elevation at surface level.

Step 3.2: Sensitivity characterization

Multiple simulations shall be undertaken to identify the sensitivity of the assessment to assumptions made about particular parameters. The simulations shall be based on altering parameters in the static geological earth model(s), and changing rate functions and assumptions in the dynamic modelling exercise. Any significant sensitivity shall be taken into account in the risk assessment.

Step 3.3: Risk assessment

The risk assessment shall comprise, inter alia, the following:

3.3.1. Hazard characterization

Hazard characterisation shall be undertaken by characterising the potential for leakage from the storage complex, as established through dynamic modelling and security characterisation described above. This shall include consideration of, inter alia:

(a) potential leakage pathways;

(b) potential magnitude of leakage events for identified leakage pathways (flux rates);

(c) critical parameters affecting potential leakage (for example maximum reservoir pressure, maximum injection rate, temperature, sensitivity to various assumptions in the static geological Earth model(s));

(d) secondary effects of storage of CO₂, including displaced formation fluids and new substances created by the storing of CO₂;

(e) any other factors which could pose a hazard to human health or the environment (for example physical structures associated with the project).

The hazard characterisation shall cover the full range of potential operating conditions to test the security of the storage complex.

3.3.2. Exposure assessment — based on the characteristics of the environment and the distribution and activities of the human population above the storage complex, and the potential behaviour and fate of leaking CO₂ from potential pathways identified under Step 3.3.1.

3.3.3. Effects assessment — based on the sensitivity of particular species, communities or habitats linked to potential leakage events identified under Step 3.3.1. Where relevant it shall include effects of exposure to elevated CO₂ concentrations in the biosphere (including soils, marine sediments and benthic waters (asphyxiation; hypercapnia) and reduced pH in those environments as a consequence of leaking CO₂). It shall also include an assessment of the effects of other substances that may be present in leaking CO₂ streams (either impurities present in the injection stream or new substances formed through storage of CO₂). These effects shall be considered at a range of temporal and spatial scales, and linked to a range of different magnitudes of leakage events.

3.3.4. Risk characterisation — this shall comprise an assessment of the safety and integrity of the site in the short and long term, including an assessment of the risk of leakage under the proposed conditions of use, and of the worst-case environment and health impacts. The risk characterisation shall be conducted based on the hazard, exposure and effects assessment. It shall include an assessment of the sources of uncertainty identified during the steps of characterisation and assessment of storage site and when feasible, a description of the possibilities to reduce uncertainty.

SECOND SCHEDULE

Regulation 13(2)

**CRITERIA FOR ESTABLISHING AND UPDATING THE
MONITORING PLAN REFERRED TO IN REGULATION 13(2) AND FOR
POST-CLOSURE MONITORING**

1. Establishing and updating the monitoring plan

The monitoring plan referred to in regulation 13(2) shall be established according to the risk assessment analysis carried out in Step 3 of the First Schedule to these regulations, and updated with the purpose of meeting the monitoring requirements laid out in regulation 13 (1) according to the following criteria:

1.1. Establishing the plan

The monitoring plan shall provide details of the monitoring to be deployed at the main stages of the project, including baseline, operational and post-closure monitoring. The following shall be specified for each phase:

- (a) parameters monitored;
- (b) monitoring technology employed and justification for technology choice;
- (c) monitoring locations and spatial sampling rationale;
- (d) frequency of application and temporal sampling rationale.

The parameters to be monitored are identified so as to fulfil the purposes of monitoring. However, the plan shall in any case include continuous or intermittent monitoring of the following items:

- (e) fugitive emissions of CO₂ at the injection facility;
- (f) CO₂ volumetric flow at injection wellheads;
- (g) CO₂ pressure and temperature at injection wellheads (to determine mass flow);
- (h) chemical analysis of the injected material;
- (i) reservoir temperature and pressure (to determine CO₂ phase behaviour and state).

The choice of monitoring technology shall be based on best practice available at the time of design. The following options shall be considered and used as appropriate:

(j) technologies that can detect the presence, location and migration paths of CO₂ in the subsurface and at surface;

(k) technologies that provide information about pressure-volume behaviour and areal/vertical distribution of CO₂-plume to refine numerical 3-D simulation to the 3-D-geological models of the storage formation established pursuant to regulation 4 of these regulations and the First Schedule to these regulations;

(l) technologies that can provide a wide areal spread in order to capture information on any previously undetected potential leakage pathways across the areal dimensions of the complete storage complex and beyond, in the event of significant irregularities or migration of CO₂ out of the storage complex.

1.2. Updating the plan

The data collected from the monitoring shall be collated and interpreted. The observed results shall be compared with the behaviour predicted in dynamic simulation of the 3-D-pressure-volume and saturation behaviour undertaken in the context of the security characterisation pursuant to regulation 4 of these regulations and Step 3 of the First Schedule to these regulations.

Where there is a significant deviation between the observed and the predicted behaviour, the 3-D model shall be recalibrated to reflect the observed behaviour. The recalibration shall be based on the data observations from the monitoring plan, and where necessary to provide confidence in the recalibration assumptions, additional data shall be obtained.

Steps 2 and 3 of the First Schedule to these regulations shall be repeated using the recalibrated 3-D model(s) so as to generate new hazard scenarios and flux rates and to revise and update the risk assessment.

Where new CO₂ sources, pathways and flux rates or observed significant deviations from previous assessments are identified as a result of history matching and model recalibration, the monitoring plan shall be updated accordingly.

2. Post-closure monitoring

Post-closure monitoring shall be based on the information collected and modelled during the implementation of the monitoring plan referred to in regulation 13 (2) and above in item 1.2 of this Schedule. It shall serve in particular to provide information required for the determination of regulation 18 (1).

