

exploration & production



# PERFURASAUN ESPLORASAUN TIMOR-LESTE

Ezaminasaun Ambientál  
24 Agostu 2010

eni

## Screening/ezaminasaun

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- Exploration drilling in permit area S06-03, Timor Leste Exclusive Area
  - At lease one well, and up to three more (four in total)
  - Drilling ship: ***Saipem 10000***
  - Drilling of second well: November 2010
  - Drilling of other wells: between 2011 and 2013
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- Perfurasaun iha área lisensa S06-03, Área Eskluzivu Timor-Leste nian
- Pelumenus posu ida, no bele iha tolu tan (hamutuk haat)
- Ró erfurasaun: ***Saipem 10000***
- Perfurasaun posu daruak: Novembru 2010
- Perfurasaun posu sira seluk: entre 2011 no 2013



### Production Sharing Contract

- Between Timor Leste Government and Eni
  - Signed 3 November 2006, under the *Petróleum Act*
  - Commitment to drill at least two wells in the S06-03 permit area, during “second period” (2010-2011)
  - Expires 2013
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### Kontratu Fahe Produsaun

- Entre Governu Timor-Leste no Eni
- Asinadu 3 Novembru 2010, iha *Ata Petróleu* nia okos
- Kompromisu atu fura pelumenus posu rua iha área lisensa S06-03, durante “períodu daruak” (2010-2011)
- Hotu iha 2013

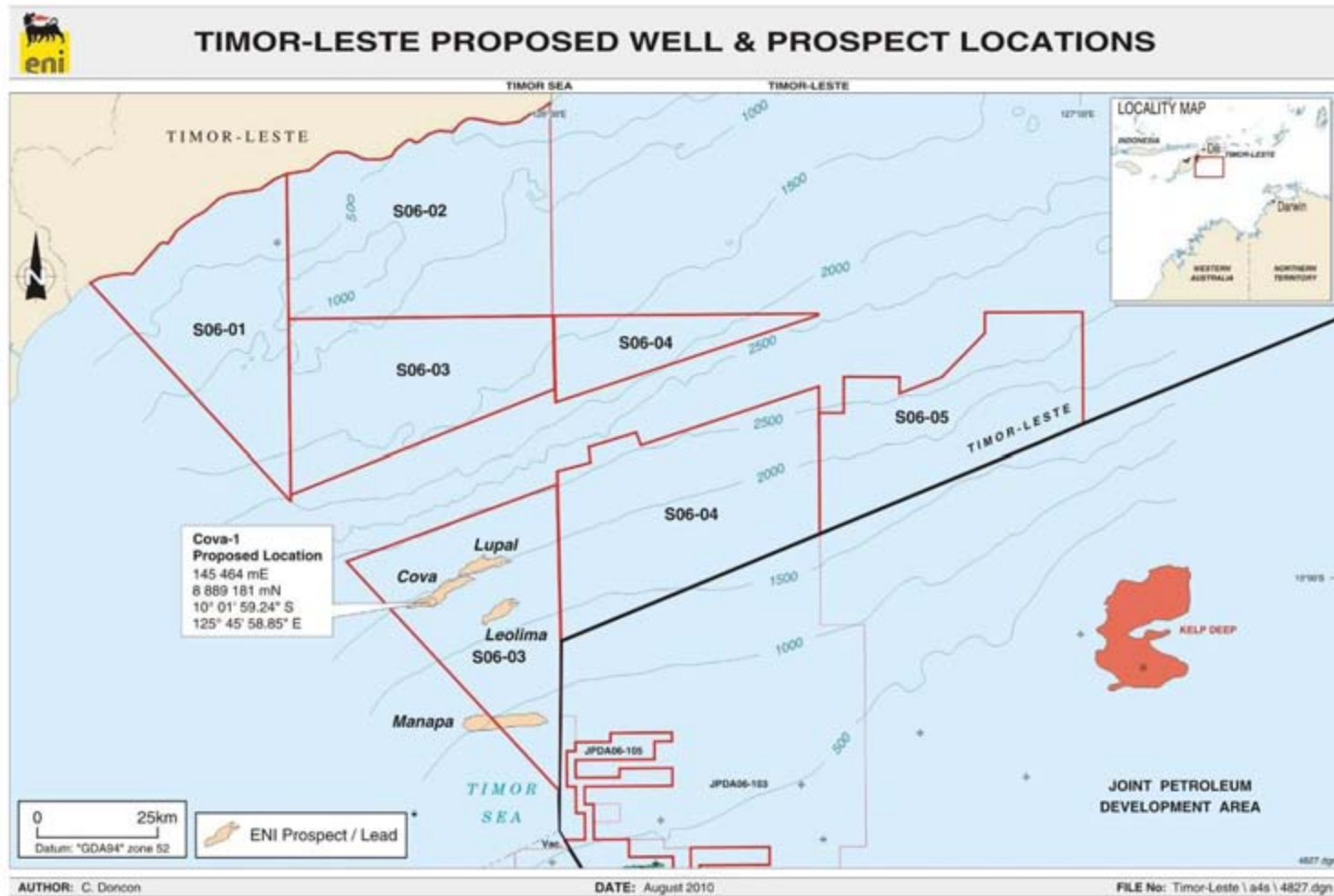


## Purpose of today's meeting:

- To provide details on the activities
  - To identify environmental issues
  - To allow stakeholders to ask questions
  - To agree on the scope and content of the EIA.
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Objetivu hosi soru-mutu ohin-loron nian:

- Atu fornese detalle kona-ba atividade sira
- Atu identifika asuntu ambientál sira
- Atu husik maksoin-lisuk (stakeholder) sira husu pergunta
- Atu konkorda kona-ba alkanse no konteúdu EIA nian



## Screening/ezaminasaun

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- Cova, Manapa, Leolima and Lupal were identified as potential **“prospects” for oil and gas during seismic surveys in 2007-08**
  - To learn more about these prospects, the next step is to drill an exploration well
  - Drilling will provide information on the reservoir geology, and whether there are commercial quantities of oil and gas.
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- **Cova, Manapa, Leolima no Lupal ne’e identifika hanesan “prospetu” potensial ba petróleu no gás durante levantamentu sízmiku sira iha 2007-08**
- **Atu aprende liután kona-ba prospetu sira-ne’e, pasu tuirmai mak atu fura posu perfurasaun**
- **Perfurasaun sei fornese informasaun kona-ba jeolojia rezervatóriu, no sei iha kuantidade komersial ba petróleu no gás.**



## Screening/ezaminasaun

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- Duration of each drilling campaign: approx. 45 days
  - Water depth: 1000 to 2000 m
  - May include well testing (bringing oil or gas to surface), depending on drilling results
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- Durasaun kampaña perfurasaun ida-idak: aprosimamente lora 45
- **Bee nia lale'an: 1000 to'o 2000m**
- Bele inklui teste ba posu (lori petróleu no gás ba superfísie, depende ba rezultadu perfurasaun nian)



## Screening/ezaminasaun

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- If oil or gas is found, production drilling would be done at a later time, either at the same location or a different location
  - Production drilling would be the subject of a separate environmental assessment
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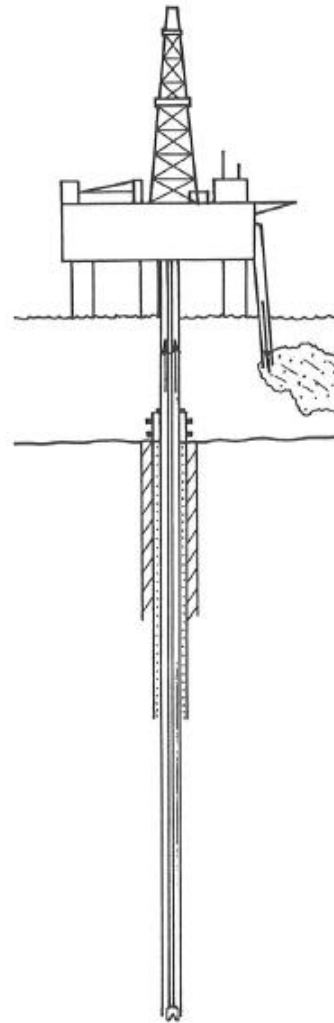
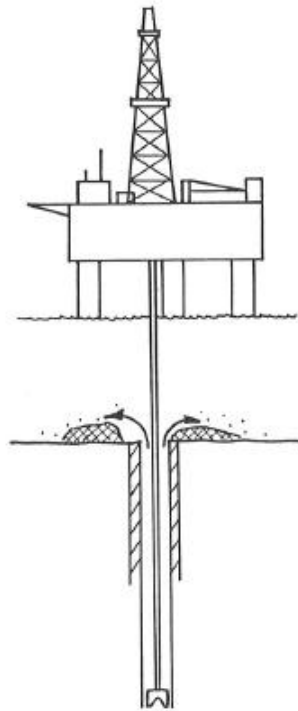
- Se hetan petróleu no gás karik, perfurasaun produsaun sei halo iha tempu tuirmai, tantu iha fatin hanesan ka iha fatin diferente
- **Perfurasaun produsaun sei sai nu'udar asuntu avaliasaun ambientál ketak ida**





# Drilling/perfurasau

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## Drilling/perfurasaun

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- Top part of well hole drilled without riser (pipe)
  - Riser added for deep sections, drill cuttings brought to surface on *Saipem 10000* for treatment
  - Drilling muds removed from cuttings in processing equipment
  - Clean cuttings discharged from *Saipem 10000* near the ocean surface.
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- Kuak posu nia parte leten ne'e fura laho kanu
- Kanu ne'e aumenta ba seksaun kle'an, perfurasaun nia eskavasaun ne'e lori ba superfisie iha *Saipem 10000* hodi hetan tratamentu
- Tahu perfurasaun ne'e hasai hosi eskavasaun ba ekipamentu prosesamentu nian
- Eskavasaun ne'ebé moos ne'e soe hosi *Saipem 10000* besik superfisie tasi nian



# Drilling/perfurasaun

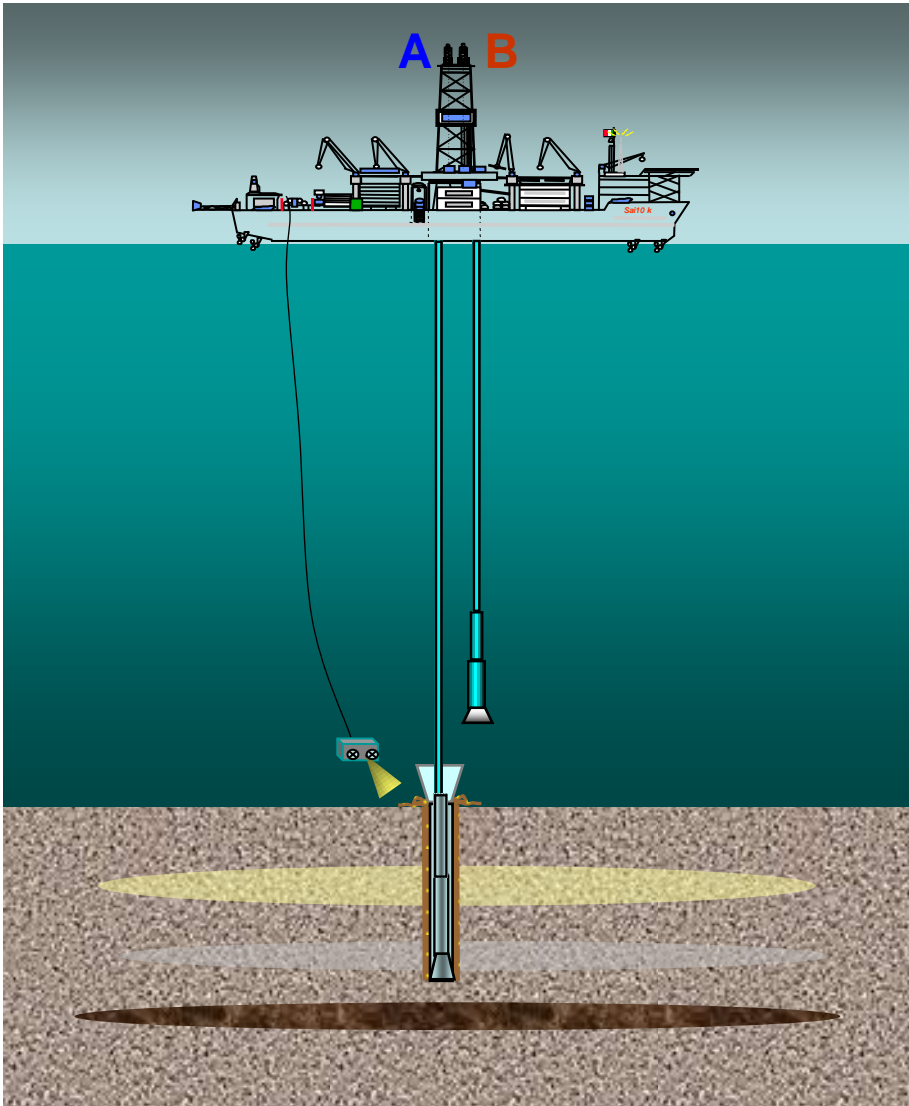
## ■ *Saipem 10000:*

- Designed to drill in very deep water
- Built in 2000
- 220 m long, 40 m wide, 20 m tall
- Accommodation for 142 people
- Two drilling rigs
- Uses propellers (thrusters) for stability

## ■ *Saipem 10000*

- **Dezeña atu fura iha bee ne'ebé kle'an tebes**
- **Harii iha 2000**
- **Ninia naruk 220m, luan 40m, aas 20m**
- **(Alojamentu ba eman na'in-145**
- **Uza propulsór (thrusters) ba estabilidade**





Top of well hole

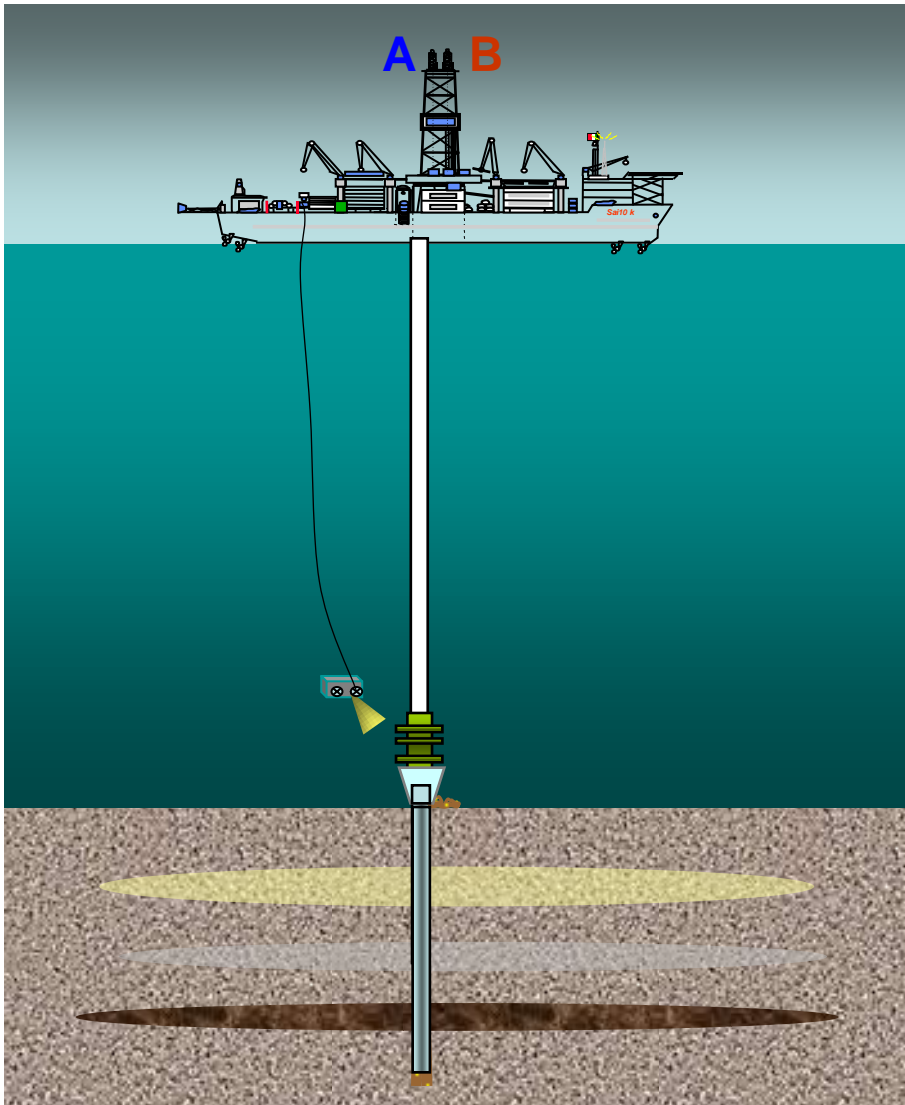
- Rig A: Drilling well
- Rig B: Bringing down equipment (e.g. BOP)

Kuak posu nia parte leten

- Torre-perfurasoun A: Fura hela posu
- Torre-perfurasoun B: Hatún ekipamentu ez. BOP)

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Preparing to drill deeper

- Rig A: Attaches BOP to well head
- Rig B: Not required after the BOP is in place. Can be used if Rig A is damaged.

Prepara atu fura kle'an liután

- Torre-perfurasau A: Tau BOP ba posu nia ulun
- Torre-perfurasau B: La presiza liutiha BOP ne'e tau iha fatin. Bele uza karik Torre-perfurasau A ne'e estraga



# Drilling/perfurasau

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- A support vessel will be used for:
    - Transporting goods, fuel and drilling tools
    - Emergency support if required
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- Ró apoiu ne'e sei uza ba
    - Transportasaun sasán, kombustivel no ekipamentu perfurasau nian
    - Apoiu emerjénsia karik prezisa



## environmental studies/estudu ambiental sira

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Review of literature and existing data

- Timor Sea climate
  - Ocean currents
  - Water temperature and salinity profiles
  - Regional marine biology
  - Protected species
  - Socio-economics (e.g. fisheries)
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Revee literatura no dados sira ne'ebé eziste ona

- Klima Tasi Timór nian
- Korrente tasi nian
- Temperatura no perfíl salinidade
- Biolojia tasik rejionál nian
- Espésie protejidu sira
- Sosio-ekonimiku (e.g. peskador sira)



### Site-specific information

- Bathymetry survey
  - Water depth
  - Features of the seabed
- Sampling of Kitan oil (same reservoir)

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### Informasaun espesífiku Sítiu nian

- Levantamentu batimetria
  - **Bee nia lale'an**
  - Karakterístika tasi-okos nian
- Amostra Petróleu Kitan nian (rezervatóriu hanesan)



# Management/jestaun

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## Main environmental impacts

- Risk of oil spills
  - Discharge of drill cuttings
  - Solid and hazardous waste
  - Sewage, wastewater, food scraps
  - Air emissions from fuel use
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## Impaktu ambientál mahuluk (prinsipál)

- Risku fafakar petróleu nian
- Sasোক perfurasaun nia eskavasaun
- **Fo'er sólidu no perigozu sira**
- **Fo'er, bee-fo'er, hahán nia restu**
- Emisaun ár hosi uzu kombustivel



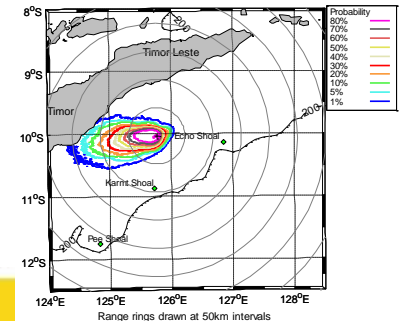
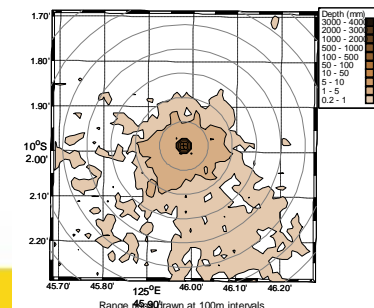
- Computer-based modelling
    - Drilling discharges (drill cuttings)
    - Accidental oil spills
  - Each model simulates:
    - Currents and winds of the Timor Sea
    - Behaviour of the discharge (e.g. settling of cuttings, evaporation of oil)
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- Modelu ne'ebé bazeia ba komputadór
  - Sasok perfurasaun nian (perfurasaun nia eskavasaun)
  - Fafakar petróleu asidentál
- Modelu ida-idak hakfudik (finje):
  - Korrente no anin Tasi Timór nian
  - Hahalok sasok nian (ez. sedimentu eskavasaun, evaporasaun petróleu nian)



- New drilling locations are
  - less than 30 km from Cova
  - equal distance or further from Timor Leste coast
- Cova modelling results will be used, but year-round modelling will be provided (summer, winter, transition)

- Fatin perfurasaun foun sira mak
  - menus hosi 30km hosi Cova
  - distánsia hanesan ka dook liu hosi Tasi Timor-Leste nian
- **Rezultadu modelu Cova nian ne'e sei uza, maibé modelu tinan tomak nian mak sei fornese (veraun, invernu, tranzisaun)**



- Management controls will be similar to those used for Cova:
    - Well control and refuelling procedures
    - Water-based drilling muds
    - Treatment of wastewater discharges
    - Waste disposal in Darwin
- 
- Kontrolu jestaun sira sei hanesan ho sira-ne'ebé uza ba Cova:
    - Kontrolu posu no prosedimentu reabastesimentu sira
    - Tahu perfurasaun ho bee
    - Tratamentu saspek bee-**fo'er nian**
    - **Soe fo'er iha Darwin**



- Eni to prepare a new EIS and EMP
  - Deliver to DNMA and stakeholders
  - DNMA to collect stakeholder comments
  - Eni to hold another stakeholder consultation meeting
  - DNMA to make decision on approval of the activity
  - Decision required by end of October 2010
  - Eni scheduled to drill second well in November 2010
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- Eni sei prepara EIS no EMP foun
- Entrega ba DNMA no maksoin-lisuk (stakeholder) sira
- DNMA sei halibur maksoin-lisuk (stakeholder) sira-nia komentáriu
- **Eni sei hala'ó soru**-mutu konsulta maksoin-lisuk (stakeholder) ida seluk
- DNMA sei halo desizaun kona-ba aprovasaun atividade nian
- **Desizaun ne'ê presiza iha Outubru 2010 nia rohan.**
- Tuir oráriu sei fura posu daruak iha Novembru 2010

