DEPARTMENT OF MINES AND ENERGY

SOUTH AUSTRALIA

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CONTENTS ENVELOPE 6862

TENEMENT: Not Related.

TENEMENT HOLDER: Department Of Environment & Planning.

SOUTHERN CROSS REFINERS PTY. LTD.

SOUTHERN CROSS REFINERY

SUPPLEMENT TO

THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

PREPARED BY:

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AND

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JUNE 1987

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APPENDICES

INTRODUCTION

This Supplement, together with the Draft Environmental Impact Statement prepared in April 1987, comprises the Final Environmental Impact Statement for the proposal for the Southern Cross refinery at Port Bonython by Southern Cross Refiners Pty. Ltd. In this Supplement to the Draft Environmental Impact Statement, the effects of the proposal are summarised with regard to the major issues raised in response to the Draft EIS.

ENVIRONMENTAL IMPACT ASSESSMENT PROCEDURE

Procedures for Environmental Impact Statements (EIS's) in South Australia are set out in Section 49 of the Planning Act, 1982. These procedures apply to development proposals which in the opinion of the Minister for Environment and Planning, are of "major social, economic or environmental importance". The Minister decided that an EIS should be prepared for the Southern Cross refinery proposal.

Subsection 4(1) of the Planning Act defines an Environmental Impact Statement as providing a statement of:

(a) the expected effects of the development or project upon the environment;

(b) the conditions (if any) that should be observed in order to avoid or satisfactorily manage and control any potentially adverse effects of the development or project upon the environment;

(c) the economic, social or other consequences of carrying the development into effect; and

(d) any other particulars in relation to the development or project required:

  (i) by regulation; or

  (ii) by the Minister.

Once the Minister has indicated that an EIS is required, the Department prepares guidelines in consultation with the proponent which outline the scope of the EIS. Following that, any necessary baseline studies are undertaken and a Draft EIS is prepared by the proponent, and published. After a period of public review the proponent responds to the public submissions received and Government Departments' comments. Their response is presented in the form of a Supplement to the EIS. The Draft EIS and the Supplement are then assessed by the Department of Environment and Planning in an Assessment Report.

The Draft Environmental Impact Statement for the Southern Cross Refinery was thus a key element in the environmental assessment procedure. During a six week period of public and government review between 9th April and 19th May, 1987, submissions were received by the Minister for Environment and Planning. Those comments, together with the proponent response, form the Final Environmental Impact Statement for assessment by the Department of Environment and Planning. The resulting assessment report, together with the Final EIS will, when released by the Minister for Environment and Planning, constitute the Officially Recognised Environmental Impact Statement.

This Supplement and the Southern Cross Refinery Draft Environmental Impact Statement are available for purchase and viewing at the Department of Environment and Planning and at the Council Offices in Whyalla. The assessment Branch Guidelines were provided in the Appendices to the Draft EIS.

PROPONENT COMMENT ON THE SCOPE OF THE EIS PROCESS

Official recognition of an Environmental Impact Statement does not constitute approval for the project. It is recognition that sufficient information has been provided on the development proposal and the possible environmental effects, together with appropriate management measures.

Assessment of the Final Environmental Impact Statement by the Assessments Branch of the Department of Environment and Planning therefore can only be an analysis of the completeness, and accuracy of the information presented. That assessment provides the Minister with a basis for a decision regarding recognition of the Environmental Impact Statement.

As far as possible consideration has been given to the points raised in the submissions received and sufficient information presented to allow the normal development application and approval processes and detailed design to proceed. Sufficient Government control over the final form and detail of the development can be satisfactorily achieved by way of statement of requirements and binding provisions which are part of the normal development approval processes.

As stated in the Draft EIS (pg 1-5), this EIS is based on the supply of feedstock only from the SANTOS Terminal at Port Bonython. If alternative feedstocks are to be utilized in the future then Southern Cross Refiners would comply with any additional requirements relating to environmental approvals which may be set by the Department of Environment and Planning. In responding to Government and public comments in this Supplement, reference has been made to alternative feedstock supplies which may exist - this does not imply that Southern Cross intends using these alternatives at this time. They have been considered in the project planning, and should they be required in the future, Southern Cross would expect to be subject to additional requirements which would be set by the Department of Environment and Planning and other Authorities at the time the details were available.

SUBMISSIONS RECEIVED

In response to the Draft Environmental Impact Statement a total of four public submissions were received, from :

- SANTOS Ltd.,
- Whyalla City Council,
- A.J.A. Scott, and
- Environmental Protection Council.

In addition a list of questions from various Government Agencies was supplied via the Assessments Branch of the Department of Environment and Planning.

There were no major objections to the refinery proceeding, and all the points raised related to detail.

The submissions and questions are included in Appendices A and B of this document.

REPLIES TO PUBLIC COMMENTS ON DRAFT EIS

1 COMMENTS OF SANTOS LTD.

1.1 RELIANCE ON SANTOS FEEDSTOCK

While detailed negotiations between Southern Cross Refiners and SANTOS have yet to be finalised, it can be noted generally, that a fundamental concept of the Southern Cross Refinery, as stated by the desire of the South Australian Parliament embodied in the Stony Point Ratification Act of 1981, is for the refinery to use feedstock from the Cooper Basin. For example, Part 1, Section L of the Stony Point Ratification Act, 1981, states:

> *L. The State being desirous that encouragement and support be given to enable the establishment of a petrochemical complex and the provision of greater security of petroleum supply in the State (with a view to reducing the risk of disruption of petroleum supply to the South Australian Community and industry) utilising petroleum produced from the Cooper Basin areas as a feedstock;*

and Part IV, The Land, Clause 10, states:

> *10. On or before the 31st day of March 1983, the State shall reserve an area of land not less than forty hectares in area, contiguous with the Proposed Development Site, suitable for purposes related to the use of Product (hereinafter referred to as the Contiguous Land). In the event that the Producers can demonstrate to the reasonable satisfaction of the State that the Contiguous Land (or part thereof) is required for purposes related to the use of Product, including but not limited to the operation of any plant or equipment for the further processing of Product by or for the benefit of the Producers, the State shall grant an estate in fee simple in the Contiguous Land or part thereof (to the extent demonstrated by the Producers in accordance with this clause) to the Producers or such person as the Producers may nominate to the State in writing.*

Notwithstanding the foregoing in the event that a person not a party to this Indenture demonstrates to the satisfaction of the Minister that he can use the whole or a part of the Contiguous Land for purposes related to the use or processing of Product the State may, with the concurrence of the Producers (which concurrence shall not unreasonably be withheld), grant such land as an estate in fee simple to such person.

It is considered that the Government should see that the intent of the Stony Point Indenture is upheld, in order to protect the best interests of the community.

1.2. REQUIREMENTS FOR STRICT ENVIRONMENTAL MANAGEMENT

The concerns of SANTOS are appreciated. A number of measures are proposed to monitor the opera ion of the new refinery which aim to:

- detect any adverse effects of the refinery operation,
- distinguish these effects from the existing SANTOS Facility.

The environmental management measures were outlined in Chapter 4 of the Draft Environmental Impact Statement. Before the development proceeds a programme of environmental monitoring will be prepared and discussed with the Department of Environment and Planning, for its approval. This will involve pre-development baseline studies and post-development monitoring surveys. In addition, in all respects of design, construction and operation, the refinery will comply with all relevant codes, standards and legislation. Prior to construction the detailed design plans will be examined by the relevant Government Agencies.

1.3 SECURITY OF AND FAIR PAYMENT FOR SERVICE INFRASTRUCTURE

The Government will advise Southern Cross on the fair recompense for the provision of services and infrastructure, in accordance with the Stony Point Indenture.

Discussions with ETSA and the E&WS Department for the supply of electricity and water to the Southern Cross Refinery have considered as first priority the supply of the agreed amounts of electricity and water to the SANTOS Facility.

1.4 OVER-RELIANCE ON DESIGN TECHNOLOGY

1.4.1 Caustic Treatment

The caustic soda wash is a provision for reducing the level of sulphur in the kerosene to meet jet fuel specification. Based on the level of sulphur in the feedstock which may be processed in the Southern Cross Refinery, the caustic wash equipment may never be used. If for some reason the sulphur in the feedstock increased and caustic treatment has to be applied, the estimated amount of 5% caustic wash to be discharged is about 1.5 cubic meters every 2 days which would be very small compared to the normal cooling tower effluent of about 7.0 cubic meters per hour.

The caustic wash would be neutralised with acid before it is allowed into the oxidation pond to avoid the formation of surfactants. The operational experience of other refineries could be called upon if this problem should persist.

Details of the disposal of sulphur wastes from the caustic soda wash, should it be required, are provided in Section 5.7.

1.4.2 Smokeless Flaring

The basic differences between SANTOS operations and that of a normal refinery should be taken into account. It takes about 5 to 6 days for material to travel from Moomba to Port Bonython in the liquids pipeline and the SANTOS facility is subject to slugging, asphaltene deposition, variable gas/liquid ratios, and so on. An oil refinery operates on a more even feedrate and quality of feedstock, so that operations such as flaring can be better controlled.

Discussions are currently being held with several vendors and designers of flares who have operating data on their equipment, and it is anticipated that the problems encountered in the SANTOS facility will be avoided. The final design of the refinery will address the question of the use of nitrogen gas, or an inert gas generator, or steam for the blanketing of the process units and other uses in the refinery.

The final design will be reviewed and approved by the Air Quality Branch of the Department of Environment and Planning.

1.5 CONCERN OVER LOCATION OF FACILITIES RE HAZARD AND RISK CONSIDERATIONS

The encroachment of the hazard zone into land adjacent to the SANTOS facilities cannot be avoided. While a more detailed hazard and risk analysis will be undertaken as part of the detailed engineering design, it is not anticipated that hazard zones will change substantially from those shown in the Draft EIS.

The original concept of the Southern Cross Refinery did not include large feedstock storage. During the so far unsuccessful feedstock negotiations, SANTOS required as a non-negotiable item feedstock storage for one month. The potential problems created by the feedstock storage resulted from the demand of SANTOS and the possibility that feedstock may have to be imported for the Southern Cross Refinery if no agreement is reached for the supply of SANTOS condensate.

1.6 CONSIDERATION OF ALTERNATIVE SITES

The Department of Mines and Energy is responsible for the disposition of the land in the Port Bonython area designated for industrial development. The present site of the Southern Cross Refinery was selected with the prior consent of SANTOS in December 1986, after discussions with the Department of Mines and Energy and subsequently, the approval of the Department of Environment and Planning, and Southern Cross Refiners.

After agreements concerning the site had been made between all parties concerned, in Adelaide, representatives of SANTOS, Department of Mines and Energy, Department of Environment and Planning, Department of Lands and Southern Cross Refiners, met at the proposed refinery site. SANTOS had already pegged the site before the delegation arrived and only minor changes were made.

The main concern of the Department of Environment and Planning was the western most boundary of the refinery site, where there was a potential for process effluent to drain to the western creek, which would directly affect the sensitive sand dunes of the Weeroona reserve. Any proposal to move the refinery site further to the West would certainly affect the Weeroona sand dunes, to an extent depending upon the exact location.

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1.7 CONCERN OVER IMPLICATIONS OF COST MINIMISATION

The applicable Government legislation, regulations, and standards followed by SANTOS in their Facility will be the same ones that will apply to the Southern Cross Refinery.

2 COMMENTS OF MR. A.J.A. SCOTT

2.1 DISADVANTAGES CLAIMED FOR THE PROPOSED SITE

2.1.1 Drainage Into Upper Spencer Gulf

In general terms, it can be stated that liquid effluent from the refinery is mainly cooling water blowdown estimated at around 7.0 cubic meters per hour. Efforts will be made during the detail design to minimise this quantity. The quality of this water is estimated to readily meet recognised standards for effluent discharge to sea. It is also planned to use this water to irrigate plants and trees within and at the boundary of the refinery site, and to reuse effluent for fire fighting training and possibly washdown. This would minimise the amount of treated effluent flowing down the creek towards the dune system in Weeroona Bay. Details of landscaping for the site have not been finalised, but an indication of the potential for reuse of effluent is summarised below:

- Irrigation:
  Assuming that:
  - effluent is applied at 50mm/week average,
  - area to be irrigated is 5% of the site (i.e. 1.7 ha),

  then the annual consumption of effluent for irrigation would be 42500m^3.

- Fire Fighting Training:
  Assuming 10m^3 water used per practice and 24 practices per year, an annual consumption of at least 240m^3 would result.

- Recycled Washdown Water:
  It is difficult to estimate washdown quantities, but at least 2m^3 per day could be expected to be lost from the system from this use. This would amount to 730m^3 annually.

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Reference to Table 2.8.3, pg 2-40 from the Draft EIS, shows that overflow from the stormwater retention pond is expected to vary between 17700m^3/year and 52700m^3, i.e. the potential exists to utilize most of this water by reuse on the site of the Southern Cross Refinery.

The opportunities for wastewater minimisation and effluent reuse will be examined during the detail design phase and approval of the DEP will be sought for the final scheme.

It should also be noted that there will be no direct discharge of effluent/stormwater to Gulf Waters. The creek draining the site discharges into dunes and so there would be the beneficial effects of filtration and adsorption of any residual contaminants before the effluent indirectly reaches Gulf Waters. (Refer Section 3.1 for undertakings in relation to monitoring of any adverse impacts from any residual contaminants on the biota associated with the creek and dunes.)

Stormwater runoff from catchment areas bypassing the stormwater retention pond would follow natural watercourses as at present (refer to Section 3.2.8 of the Draft EIS). Runoff from a small area (0.5Ha) in the north east corner of the refinery site would travel eastwards, as at present - this water would not be contaminated. Stormwater collected within the bunds for the condensate storage tanks in the north east part of the site would be directed to the oxidation pond, along with the rest of the process effluent.

2.1.2 Hazard Zone Encroachment into Coastal Recreation Zone on Upper Spencer Gulf

It is considered that the hazard zones of the Southern Cross Refinery do not affect the coastal recreation zone in the Stony Point area as indicated by Figure 2.6.1, notwithstanding that the hazard contours of Fig. 2.6.1 show intersection with the old road to Point Lowly. The reason is that when the SANTOS Facility was established, the SANTOS hazard contours rendered this road as ineffective as an escape route, so that it was closed and a new road developed near the eastern coast. There are signs and obstacles on this old road indicating its closure.

2.1.3 Visual Encroachment on Coastal Zones

The plant layout is generally based on considerations of safety, process requirements, natural site topography and meteorological conditions which may affect other parties nearby.

Probably, the greatest potential visual impact would be the condensate storage tanks because of their height and size. When the refinery is completed, it is planned to ameliorate any harsh visual impacts by tree planting or other means, after taking fire risks and safety into consideration. This will reduce the visual impact to local visitors.

Note also the general provisions for minimising visual impact, given in Section 3.4.8 of the Draft EIS.

It is accepted that the major visual impact arises from the regional perspective. The facility will be obviously visible to people on boats in the Gulf and to people on the other side of the Gulf. The impact will be one of marginally increasing the existing impact of the SANTOS facility.

2.1.4 Limitations on Transport Options To and From Site

There would be an addition of about 50 tanker trips per day via the Port Bonython-Whyalla road which has a relatively low traffic density at present. To counter balance this, there would be a corresponding reduction in tanker traffic out of Port Pirie to the Iron Triangle region.

If in the future greater volumes of products have to be moved from the Port Bonython site, other transport options would be considered and environmental impacts considered at the time. The Department of Environment and Planning would be notified and their instructions sought in this regard.

2.2. POSSIBLE SITE ALTERNATIVES

2.2.1 First Preference - Tregalana Industrial Estate

This site is too far from the source of the raw material which is assumed to be SANTOS condensate and limits future possibilities of operation and expansion of the refinery. The site would also be disadvantageous if in the future products are transported by ship to other coastal destinations.

The specific site proposed as the junction of the Port Lincoln Highway and the Port Bonython road may not be suitable from the point of view of the hazard zone affecting the railroad and the Port Lincoln Highway.

2.2.2 Second Preference - West Side of Weeroona Bay

It is understood that the site West of Weeroona Bay has been reserved by the Government for a possible future petrochemical plant.

2.2.3 Third Preference - Re-arrange Proposed Plant Layout

The proposed plant layout locates the flare at the most westerly location on the refinery site, having regard for safety distances from the site boundaries.

The condensate storage tanks are located to ensure maximum safety considerations for the rest of the refinery facilities.

3 COMMENTS OF THE CORPORATION OF THE CITY OF WHYALLA

The Council generally supported the proposal and identified the economic and social benefits to the region, pointing out that they were in line with Council's efforts to increase the diversity of local employment opportunities within the City. It was concluded that potential environmental effects from waste products were well catered for and would not appear to present a hazard to the environment. Impact upon visual amenity and recreational use of adjacent areas would be significant to a degree, but these were accepted as the inevitable consequence of development of this kind. It was felt that the overall benefits to the community and lack of any other significant hazard outweighed by far their possible adverse effects.

Two points were raised by the Council and are discussed below.

3.1 ACCESS TO HOLDING DAM SYSTEM

As it now stands animals or humans could gain access to the proposed holding dam system on the small creek draining to Weeroona Bay and this may at times contain contaminated water. To overcome this it is proposed that this area be located within the fenced site of the Southern Cross Refinery - this will be considered in detail during the design phase and the approval of the Department of Environment and Planning will be sought, as to the final location and detailed design. This action will overcome the potential of accidental drowning in these ponds formed by flame retention weirs.

Effluent will flow over these weirs and pond in natural depressions in the creek bed, especially for short durations following rainfall events (at other times it is expected that the effluent will evaporate or infiltrate into the stream bed, depending on the amount of reuse of effluent on site). It is possible that humans or animals drinking this ponded water could suffer adverse effects from residual contaminants in the effluent. Two points should be noted in this regard:

- The creek traverses an area which is restricted to human access because of the possible presence of unexploded ordnance - signs are in place to this effect.

- In relation to potential adverse impacts on biota in the creek bed, the undertakings provided in the Draft EIS should be noted, namely (pg 3-28):

  Because of uncertainty associated with the effects of low hydrocarbons concentrations on biota in the creek system, it is proposed to monitor the water quality of the effluent from the treatment pond and the stormwater retention pond, water in the ephemeral creek and silts in the flame control weir system. Photo-points to monitor floral responses to effluent discharges will be established in consultation with the DEP (refer also Section 4.6).

3.2 IMPACT UPON RECREATION

It was considered that the Draft EIS did not address the current conflicts between industrial use in the area and recreation. It was considered that with increased pressure for recreational use in the area conflicts may worsen - especially if industrial development is to continue.

It is pointed out that the future use of this area is a matter of Government Policy through a Supplementary Development Plan. It is anticipated that the land on which the refinery is to be constructed will be zoned for industrial development. In their submission the Council has indicated that it is liaising with the Lands Department to prepare a management plan for recreational use of the False Bay and Fitzgerald Bay areas.

4 COMMENTS OF THE ENVIRONMENTAL PROTECTION COUNCIL

The Environmental Protection Council raised three issues relating to the clearance of native vegetation, conservation of topsoil and effluent reuse. These issues are addressed below:

4.1 CLEARANCE OF NATIVE VEGETATION

The Council enquired as to whether permission had been granted for the clearance of native vegetation for the purposes of preliminary earthworks, under the provisions of the Native Vegetation Management Act, 1987.

The Department of Environment and Planning has advised that such permission has been given.

Note that the list of South Australian planning and legislative provisions given on page 1-11 of the Draft EIS should be extended to include the Native Vegetation Management Act, 1987.

4.2 CONSERVATION OF TOPSOIL AND VEGETATION

The Council enquired as to whether topsoil and vegetation cleared during preliminary earthworks would be stockpiled on site for later use in revegetation and landscaping.

Southern Cross Refiners note the Council's concerns, and will undertake to conserve and reuse topsoil and vegetation during earthworks construction as far as possible.

4.3 EFFLUENT REUSE

The Council enquired as to whether it was planned to reuse treated refinery effluent for irrigation on the site.

Southern Cross Refiners note the Council's concerns, and will undertake to reuse suitable effluent as far as possible. See also Section 2.1.1 of this Supplement.

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4.4 ALTERNATIVE FEEDSTOCK

The Council noted that feedstock supply from alternative sources would require close re-examination. The general undertaking provided in the Draft EIS and this Supplement should be referred to, i.e. should an alternative feedstock be intended for supply of the refinery, the Department of Environment and Planning would be notified and their instructions would be complied with.

5. REPLIES TO GOVERNMENT COMMENTS ON DRAFT EIS

5.1 ADDITIONAL INFORMATION REQUIRED TO ENABLE SOME PLANT DESIGN ASPECTS TO BE ASSESSED

Six matters were raised, and these will be addressed fully during the engineering design stage. Specific comments are given below:

5.1.1 Hazard Zones

A detailed hazard and risk analysis will be undertaken as part of the detailed design prior to the purchase of any equipment. However it is not anticipated that hazard zones will change substantially from those shown in the Draft EIS. The encroachment of the hazard zone into the land adjacent to the SANTOS Facility cannot be avoided.

5.1.2 Flare Design

It is considered that flare design will be adequate to meet emergency conditions which can be anticipated, and that the flare system will be able to accommodate emergency shut down without dark smoke emissions. Both ground and overhead flares will be considered during the detailed engineering design stage, and approval will be obtained from the Department of Environment and Planning.

5.1.3 Ability of reformer and isomerisation unit to be operated during a power failure.

Modern designs of reformer and isomerisation units can accommodate power failures with motor drives on the re-cycle compressors. Southern Cross Refiners have received assurances on this from their process licensors.

5.1.4 Ability of plant to process mixed condensates

The process includes facilities for sulphur removal in the hydro-treater, and thus could process raw material with higher sulphur content, up to 1.5% if required. SANTOS feedstock will have a sulphur content less than 30ppm. Generally, the plant can process mixed condensates, but for economic reasons, it would be preferable to process one type of condensate at a time.

5.1.5 Ability of plant to process variable product mixes

In terms of the fuel processing units, the Southern Cross Refinery has a greater flexibility for variable product mixes than some existing Australian refineries.

The refinery will have the ability to alter the mix of premium motor spirit and unleaded petrol, but mixes composed of higher unleaded portions than that of the design mix would be less economical.

5.1.6 Ability of oxidation and stormwater ponds to contain rainfall events

During the engineering design stage, the occurrence and magnitude of runoff associated with rainfall events will be assessed. Before final decisions are made concerning the oxidation and stormwater ponds, the Department of Environment and Planning will be consulted, and their approval obtained.

5.2 INFORMATION REQUIRED ON SAFETY OF EXISTING SANTOS LIQUIDS PIPELINE DUE TO CLEARANCE OF UNEXPLODED ORDNANCE, OR EXPLOSION OF TANKER ON ACCESS ROAD

Appendix C to this Supplement contains the proposed procedure for the clearing of ordnance which was the procedure followed in the clearing of the SANTOS land and the services corridor. As indicated in Appendix C, explosives experts will be employed to undertake the clearance of unexploded ordnance.

It is understood that the Lands Department was advised by the Pipelines Authority of South Australia (PASA) that a minimum of 1.70 metres of soil cover should be maintained over the Moomba Liquids pipeline at cross-overs, and that an approved concrete cover should be installed. This and any other requirements of PASA will be met. It should also be noted that the PASA pipeline has been strengthened in the vicinity of the 'contiguous land' to the SANTOS facility. The proponent is not aware that tankers carrying gasoline, diesel, or fuel oil have ever exploded to the extent that a crater deep enough to damage the Moomba Liquids Pipeline could be created. If a tanker should catch fire in the vicinity of the Moomba Liquids Pipeline, the normal firefighting equipment will be adequate to handle it.

5.3 INFORMATION REQUIRED TO ENSURE SUFFICIENCY OF PRODUCT STORAGE TANK SIZES

Concern was expressed that the product storage tank sizes should be sufficient to provide continuous supply in the event of:

(a) Off-specification product being produced by the plant, and requiring blending to meet specification requirements.

(b) Unscheduled lo s of production, and scheduled plant shut-downs.

The two situations are addressed as follows:

(a) A slops tank is provided for off-specification product mainly for petrol and the off-specification product is then slowly fed back to the plant. There are also two product tanks for each type of product and this allows quarantining a stream or a product that is off-specification. Finally, if feedstock storage tanks are installed, off-specification streams may be diverted to these tanks.

(b) Seven day storage is to be supplied in each product tank. This should be sufficient to cater for all reasonable shutdowns, and prevent problems associated with increased tanker traffic density resulting from the need to clear a backlog. Generally, scheduling of shut-downs should minimise disruption to supply. However, should longer unscheduled disruptions be encountered, products would be imported or borrowed from other refiners. In this emergency, products would be transported by road tanker from Port Adelaide.

5.4 INFORMATION REQUIRED TO CONFIRM THAT ENVIRONMENTAL DISCHARGES FROM REFORMER WOULD CONFORM TO STATE LEGISLATION WHEN PLANT PRODUCTION OF UNLEADED PETROL IS INCREASED.

Initial production of unleaded petrol is anticipated at 10% of the time or a total of 3 days in 30. During this time, the reformer is operated at a severity to produce reformate at 100 RON (Research Octane Number) compared to the normal operation where the severity is such that 95 RON is produced. The refinery is designed to meet the environmental standards at the worst conditions.

To meet increasing demands of unleaded petrol, the Southern Cross Refinery will operate 3 days a month in the first year, 5 days a month in the next year, 7 days a month in the year after, etc. at the higher severity.

The concentration of the contaminants SO_2, CO, HC and NO_x will vary according to the operation mode of the refinery, namely:

- Initial conditions, with 3 days per month operation at the higher severity to produce unleaded petrol.

- Final conditions, with the possibility that the refinery will eventually be operating on the higher severity to produce mostly unleaded petrol.

- Emergency conditions, with abnormal flaring and venting of hydrocarbons under conditions of excess pressure from the PSV's.

As noted in the Draft EIS (pg 2-35), when the details of stack emission concentrations become available in the detail design phase, the stacks will be designed so that under worst operating conditions (both normal and abnormal), the limits on ground level concentrations of contaminants will not be exceeded. (The values of contaminants provided in the Draft EIS [Table 2.8.1, 2.8.2] were daily averages and indicative values, not suited to detailed design of stacks.) The limits on ground level concentrations will be set in the Licence to be obtained under the Clean Air Act, 1984. The stacks will be designed to a procedure approved by the Department of Environment and Planning, i.e. the procedure specified in the Victorian EPA Publication 210 "Plume Calculation Procedure".

5.5 INFORMATION REQUIRED ON DISPOSAL AND TRANSPORTATION OF LVN AND ISOMERATES

There will be no LVN (Light Virgin Naphtha) production, and all isomerates produced will be blended into the petrol mix. There will therefore be no extra hazard due to the transportation of these more volatile materials.

5.6 NEED TO ADDRESS BALANCE IN SUPPLY OF DISTILLATES VS PREMIUM MOTOR SPIRIT/UNLEADED PETROL

It can be shown that there is approximately 9,000 to 12,000 barrels per day of petrol and about 4,000 to 5,000 barrels per day of distillate that is imported into South Australia. One of the main purposes of the Southern Cross Refinery, using the SANTOS condensate as a feedstock, is to produce a greater proportion of petrol, thus alleviating the shortfall of petrol supplies in South Australia.

If the Port Stanvac expansion proceeds, this could lead to an oversupply of premium motor spirit in South Australia. Southern Cross Refinery has the capability to alter production to produce more unleaded petrol, albeit at additional cost.

5.7 INFORMATION REQUIRED ON HANDLING OF WASTE LIQUOR DISCHARGES DURING KEROSENE PRODUCTION

This matter has been partly dealt with in the SANTOS comments (see section 1.4). In addition, consideration will be given to routing the caustic waste liquor through an expansion drum where any small amount of hydrogen sulphide gas will be separated and vented to the flare system before the caustic liquor is neutralised and discharged to the oxidation pond. Final details will be provided to the DEP when they become available in the detail design phase. Appropriate approval would be sought at this stage.

5.8 JUSTIFICATION FOR REMOVING STORMWATER POND REQUIRED

It is appreciated that the retention of the stormwater pond in the plant design may be considered important to the safety of the existing SANTOS installation. Therefore the matter will be studied carefully during the engineering design stage, and adequate justification for the removal of stormwater pond will be provided, if appropriate. The agreement of the Department of Environment and Planning will be obtained before a final decision on the matter is made.

5.9 CAPABILITY OF REFINERY TO MEET CERTAIN SPECIFICATIONS FOR JET FUEL AND FUEL OIL

Concern was expressed over the refinery's capabilities to meet the specification for:

(a) Jet fuel: flash point and quality control,
(b) Fuel oil: flash point and viscosity

The Draft EIS is not considered to be strictly relevant to the above questions, however, comments are made as follows:

(a) The flash point of the jet fuel will be met because the kerosene will be rundown to a side stream stripper with a reboiler. Analysis of the fraction by the BHP laboratory provides assurance that the quality will be met.

(b) Based on the SANTOS feedstock, there is no problem on viscosity and flashpoint but the problem is the pour point on the fuel oil. The pour point can be corrected by adding some distillate but economically it would be better to sell the small amount of fuel oil with an off-specification pour point at a discount.

5.10 LOCATIONS OF HAZARD ZONES AND FLAME WEIR SYSTEMS OUTSIDE PROPOSED SITE

Concerns that the Hazard Zones associated with the refinery extend beyond the boundaries of the proposed site are appreciated. However, it must be accepted that the situation is unavoidable, and no different in principle from the other hazard zones in the Port Bonython area extending out of their various sites.

During the engineering design stage, consideration will be given to relocating the flame weir to be within the Southern Cross Refinery site. No problems in this regard are anticipated at this stage.

5.11 NOISE EMISSIONS TO BE INVESTIGATED BY DEP ONLY FOLLOWING A COMPLAINT

It is accepted that investigations into noise emissions by the Department of Environment and Planning would only be conducted following a complaint of excessive noise emissions, and that noise emissions would not be monitored on a routine basis as implied by the final paragraph of page 5-9 of the Draft EIS.

5.12 MAXIMUM PERMISSIBLE NOISE LEVELS

It is accepted that for the purposes of determining maximum permissible noise levels the refinery site should not be considered to be in an area designated as industrial (as stated on page A2-2 Section A2.6 of the Appendices to the Draft EIS), despite the proximity of the SANTOS Terminal. Rather, due to the large rural component of the area, the maximum permissible noise levels should be:

58 dB (A) 7 a.m. - 10 p.m.
50 dB (A) 10 p.m. - 7 a.m.

as indicated on page 2-45 of the Draft EIS, and as advised by the Department of Environment and Planning.

It should be noted that the refinery site is presently unzoned, but that it is envisaged that it will be zoned as industrial, on finalisation of the Supplementary Development Plan - see also Section 3.2.

5.13 CAPABILITY TO STORE CONDENSATE WITHOUT ENDANGERING STATE'S GAS SUPPLY

Concern was expressed over the capability of the Southern Cross Refinery to store condensate supplied by SANTOS in such a way that the security of South Australia's gas supply is safeguarded.

The Southern Cross Refinery is the last link in a long chain that affects the State gas supply, as illustrated in the table below:

FACTORS AFFECTING SOUTH AUSTRALIA'S GAS SUPPLY

- o Geological Reserves
- o Satellite Well Stations of Cooper Basin
- o Collecting Pipelines to Moomba
- o Moomba Processing Plant
- o Moomba Liquids Storage
- o Adelaide Gas Pipeline
- o Moomba-Port Bonython Liquids Pipeline
- o SANTOS Port Bonython Liquids Plant
- o Sale of Crude
- o Sale of Condensate
- o Shipping of Crude and Condensate
- o Southern Cross Refinery

The influence of one of the final links, the Southern Cross Refinery, is discussed below.

At present, SANTOS has approximately 33 days storage for its output of about 12,000 barrels of condensate per day. Purchase by Southern Cross of 7,300 barrels per day would increase SANTOS' effective storage to 84 days. This would require SANTOS to reschedule tanker visits based on 84 days storage instead of 33 days storage, i.e. the current shipping schedule of 5 to 7 ships per month would need to be rescheduled to 5 to 7 ships per quarter, i.e. 2 to 3 ships per month. It is appreciated that it is difficult to reschedule tanker visits at short notice. Possible scenarios and their consequences are outlined below:

- o Should there be a total failure of the Southern Cross Refinery then feedstock would not be drawn from the Southern Cross condensate feedstock storage tanks and continuing supply from SANTOS would eventually fill these storage tanks to capacity. Thereafter, the SANTOS condensate storage tanks would be filled at a faster rate than would now be normal (i.e. at the rate of filling to capacity in 33 days instead of the now normal 84 days). This would require either rescheduling of tankers to collect from SANTOS or an interruption to the flow of liquids from Moomba. The significance of such an unlikely event will depend on the storage capacity available in the Southern Cross feedstock storage tanks, i.e. how much notice is given to SANTOS to enable them to reschedule their operations.

It is understood that SANTOS are aware of the potential problem and, in their negotiations with Southern Cross, have required the inclusion of condensate feedstock storage tanks on the Southern Cross site, in order to provide greater flexibility in the operation of the total (Southern Cross and SANTOS) materials handling system at Port Bonython.

- Should there be a failure in the condensate feedstock supply line connecting SANTOS to Southern Cross, then the situation described above would be more acute, as there would be no storage available at the Southern Cross site. This would require SANTOS to have a contingency plan for quickly rescheduling tanker visits in order to prevent interruption to the supply of liquids from Moomba. This circumstance is as much under the control of SANTOS as Southern Cross (having regard for the respective lengths of the pipeline in the SANTOS site compared to the Southern Cross site) and would be regarded as being more critical than the first scenario described above.

However, both the integrity of the feedstock supply pipeline and the performance of a modern oil refinery are such that breakdowns in either component are unlikely and that, if they do occur, down time would be expected to be only a matter of days. This is relatively insignificant when compared to the 84 day storage in the SANTOS system (and would be even more insignificant when the security of Southern Cross storage is added to this).

5.14 COMMERCIAL AGREEMENTS WITH OTHER MAJOR OIL COMPANIES

Concern is expressed over the fact that the sale of products in the Iron Triangle Region of South Australia is dependent upon a reciprocal exchange of products in the Eastern States from other major oil companies.

The marketing arrangements of Southern Cross Refiners are commercially confidential. Southern Cross Refiners understands that the appropriate Government bodies possess the relevant information related to this question. These Government bodies have satisfied themselves and the IDC on this issue.

5.15 IMPLICATIONS OF FEDERAL GOVERNMENT'S CRUDE OIL ALLOCATION SCHEME

The crude oil allocation scheme is an agreement among the major oil companies, and the Federal Government has positive plans to deregulate the Australian crude oil market.

Southern Cross is not able, for commercial reasons, to divulge the arrangements open to the company regarding the Australian crude oil allocation scheme. A number of options are available, which will enable Southern Cross to comply with regulations pertaining to the scheme.

5.16 PLANS FOR OVERCOMING SHORTFALLS IN SUPPLY OF CONDENSATE FROM SANTOS

Alternative sources of condensate have been considered. Two possible scenarios are:

(i) Higher condensate production from fields connected to the Moomba-Port Bonython pipeline, arising from one or a combination of the following factors:

- o There is a need to safeguard the supplies of gas for the State, and this will necessitate continuing exploration for gas in the Cooper Basin. It is likely that this exploration will also discover additional liquids reserves.

- o Other known fields could be connected to the Moomba Port Bonython pipeline, e.g. the Queensland component of the Cooper Basin, and fields in the Northern Territory.

(ii) Importation of feedstock over the existing Port Bonython wharf. If this scenario were to eventuate, the Department of Environment and Planning would be advised, and their direction sought as to the level of environmental investigation and associated documentation and procedures required. Southern Cross would comply with the Department's direction in this regard.

It is understood that concern has arisen in Government Departments on the security of condensate supplies on the basis of the graph provided in Appendix D. This indicates a production of less than the required 7300 barrels per day between 1990 and 1992. It should be noted that the "SA Cooper Basin Unit" is a subset of the 'block' which is in turn a subset of the region. It does not represent that total volume of condensate available to the Port Bonython Terminal from the Cooper Basin. Southern Cross understand that of the order of 20 years supply of condensate is available from the known reserves in the Cooper Basin.

5.17 CONCERN OVER ESTIMATED COSTING FOR PLANT CONSTRUCTION

Concern is expressed that the plant construction costs may have been underestimated, and that environmental protection measures might suffer as a result.

Southern Cross refrains from commenting on the economic viability of the refinery, which has been addressed previously in great detail in the Feasibility Study which was presented to the IDC. On the subject of environmental protection measures, however, Southern Cross undertakes to meet all the commitments made in the Draft EIS and the Supplement, and the requirements of the Minister in giving official recognition to the EIS.

5.18 EFFECT OF PROPOSED REFINERY ON EXISTING EMPLOYMENT AT PORT ADELAIDE, PORT PIRIE AND PORT LINCOLN

As noted in the Draft EIS (Section 3.4.4), the establishment of the Southern Cross Refinery and its associated marketing of products is not anticipated to lead to any job losses. This matter has been addressed in detail in an independent report by P.C. Frederick "An Assessment of the Impact of a Refinery Being Built at Port Bonython". The report was reviewed by the IDC before it made recommendations to Government on the matter of loan guarantees. The reasons supporting the expectation that no job losses will result are:

o Port Adelaide and Port Pirie:

Loading at Port Adelaide, transport, unloading at Port Pirie, storage at and distribution of petroleum products from Port Pirie will only be affected by degree. All these operations will still be required, but for a reduced volume of products, as only distillate and other products such as fuel oil will be distributed. Most people employed in these areas are not solely dedicated to the distribution of petroleum products. Australian National (AN) does not expect any redundancies to arise from the scaling down of the transport of oil products from Port Adelaide to Port Pirie. It should be noted that AN operations at Port Pirie have been scaled down in recent years following standardisation of the rail line from Port Pirie to Adelaide (Dr. N. Otway, Assistant Operations Manager, AN, 23/6/87).

o Port Lincoln:

The Port Lincoln terminal will be used as a distribution point for Port Bonython products in the same manner as it is currently serving to distribute imported products shipped into Port Lincoln. It is unlikely that there would be job losses associated with the cessation of ship tanker unloading as this is an infrequent activity and would not employ people dedicated to this task. Over the past two years there have been 22 petroleum product ship unloadings at Port Lincoln compared with a total of 304 ship calls, i.e. only 7% of ship calls to Port Lincoln are for the unloading of petroleum products. The Department of Marine and Harbors staffing for wharf activities at Port Lincoln is related to total workload rather than the minimum number of people required to service an incoming ship. (A petroleum product tanker requires more staff than a conventional ship in mooring operations, i.e. if staff numbers were related to this factor then abolition of the petroleum tanker could lead to a reduction in the number of staff required.) As mooring of ships is only a component of the workload for DMH employees at Port Lincoln, it is unlikely that such a small reduction in the total workload of itself would lead to any redundancies. (Personal Communication, Mr. T. Bateman, Manager Forward Planning, Dept. of Marine and Harbors, 24/6/87).

Once the petroleum products are stored in the distribution terminal, there are no differences to the current operation and so no job losses would be involved. Oil Company employees are responsible for unloading, and, because of the increased frequency of road tanker unloading, the workload would be expected to increase in this area. There will also be additional tanker driver jobs created to haul product from Pt. Bonython to Port Lincoln.

It should be noted that oil companies operating in the region have been rationalising their operations for some time and that this may continue. BP has left the area except for the supply of products to the Roxby Project. ESSO has left the Port Lincoln area and Shell has reduced its operations at Port Pirie. Frederick (op.cit.) concludes:

I would not see any reduction in these numbers (of people employed by the Oil Companies in the Iron Triangle and Port Lincoln region) because of the possible change (introduction of Southern Cross Refinery). It may be envisaged that there be minor changes in the duties of the one or two people but nothing significant.

Therefore I see only minor difficulties in establishing a refinery at Port Bonython so far as the marketplace is concerned. No change in the present levels of manning by company (other oil companies) staff that could be attributed to it (establishment of the Southern Cross Refinery).

5.19 HAZARDS ASSOCIATED WITH INCREASED ROAD TRANSPORTATION SHOULD PRODUCTS BE DISTRIBUTED OUTSIDE OF THE IRON TRIANGLE AREA

Southern Cross intends and expects that, as described in the Draft EIS, it will market all of its petroleum products in the Iron Triangle Region (as defined in the Draft EIS). However, should its products be sold outside this area, then the changes in the hazards from road tanker transport are likely to be:

o Negative Impact:

- An increase in road tanker traffic through Port Augusta to Port Pirie if the Southern Cross Refinery serves only a small portion of the Iron Triangle market and if other South Australian markets are to be served.

- Increased road tanker traffic between Port Pirie and Adelaide if the Adelaide market is to be served.

- Increased road tanker traffic on some country roads if country areas such as the Riverland and the South East are to be served (i.e. alternative routes to those currently being used to serve these areas would probably be used).

o Positive Impact:

- A reduction in road tanker traffic between Port Pirie and Port Augusta if most of the Iron Triangle is to be served by the Southern Cross Refinery.

- A reduction in hazards associated with importation of product by ship from interstate if Southern Cross Refinery product is supplied to Port Lincoln. Hazards would also be reduced at Port Adelaide with the replacement of imported product by Southern Cross Refinery product in other parts of the state.

- If Southern Cross Refinery products replaced products produced in or imported into Adelaide in areas such as the South East of South Australia or the Riverland, then there would be a reduction in tanker traffic hazard through metropolitan Adelaide. In addition, some of the country routes used to supply country areas from Adelaide would not be used by road tankers from Port Bonython, thereby reducing the risks on these current routes.

As detailed in the Draft EIS (Section 2.7), with product distributed in the Iron Triangle Region, there will be a nett improvement to the hazard potential from transport of petroleum product in South Australia. The extent of improvement will be diminished as less of the Iron Triangle Region is served and more remote areas are served. However, the overall benefit of reduction in the importation of product by ship through Port Adelaide and Port Lincoln and the associated hazard reduction will remain.

5.20 JUSTIFICATION OF SITE AT PORT BONYTHON IN THE EVENT OF FEEDSTOCK NOT SUPPLIED BY SANTOS

Other sites including Port Pirie and Port Adelaide have been assessed versus the Port Bonython site. These sites were rejected as being potential sites in the event that SANTOS feedstock was not available at Port Bonython for the reasons listed below:

o Port Pirie:

- The port is unable to cater for the size of condensate tankers now operating.

- The hazard associated with a fire and/or explosion resulting from unloading of crude or condensate in Port Pirie is such that the Dept. of Marine and Harbors has banned the shipping of petroleum products into Port Pirie. Rail transport has replaced previous shipping.

- Similarly, the construction of refinery with feedstock storage tanks would have adverse hazard implications in many areas in the vicinity of Port Pirie.

o Port Adelaide:

- While a Port Adelaide refinery would be advantageous from the viewpoint of access to markets and the ability to import feedstock from tanker ships, it suffers from the same disadvantages as Port Pirie in relation to hazard problems. Consideration has been given to relocating the existing tanker unloading facilities at Port Adelaide because of the potential hazard. To increase the volume of hydrocarbons being unloaded at Port Adelaide, as would occur if a refinery was established there, would increase the risk of a hazardous event. Southern Cross would expect significant opposition from both Government and local residents on the grounds of unacceptable hazard if it tried to establish a refinery supplied by feedstock imported through Port Adelaide.

The disadvantages described above for Port Pirie and Port Adelaide do not apply at the Port Bonython site. The advantages of the Port Bonython site are still significant, even if feedstock was not available from the SANTOS facility. These advantages should include:

- o A safe port specifically designed to handle hydrocarbons.
- o Availability of infrastructure.
- o Available land designated for use by the petrochemical industry.
- o Community support.
- o Proximity to the target market area of the Iron Triangle Region.
- o Availability of good environmental baseline data and demonstrated ability of an hydrocarbons facility (SANTOS) to operate with minimal environmental impact to the local environment.

See also Section 5.16.

5.21 ENVIRONMENTAL IMPLICATIONS OF USING ALTERNATIVE SUPPLIES OF FEEDSTOCK

Refer to the comments made in Section 5.16.

Discussions with the Department of Marine and Harbors have indicated that it is possible to use the front end of the Port Bonython wharf to unload feedstock for Southern Cross. This would mean about one additional ship per month on a current frequency of about 5 to 7 ships per month using the wharf. The same safety standards and contingency plans that currently exist at the wharf would be maintained.

Environmental matters would need to be addressed to a level of detail prescribed by the DEP should feedstock be imported over the wharf. Southern Cross Refiners would undertake any necessary studies and comply with all directions of the relevant Government bodies should the need arise to import alternative feedstock.

APPENDIX A

SUMMARY OF PUBLIC COMMENTS

SUBMISSION NO.	AUTHOR
1	Santos Ltd.
2	A.J.A. Scott
3	Corporation of the City of Whyalla
4	Environment Protection Council

COMMENT NO.	AUTHOR OF PUBLIC SUBMISSION AND SUMMARY OF POINTS RAISED	DRAFT EIS REFERENCE	RESPONSE (SUPPLEMENT REFERENCE)
A1	SANTOS LTD.		
A1.1	Criticised reliance on SANTOS feedstock and suggested that alternative feedstock sources and all aspects of transportation, unloading and storage of product with the implications on hazards, safety measures and contingency plans should be given.	1.1 1.3	1.1
A1.2	Stated their concerns on strict environmental management, as the construction and operation of the refinery in the immediate vicinity of their facility has the potential of additional and synergistic impacts on the environment.	-	1.2
A1.3	Stated the necessity of security of and fair payment for service infrastructure by the way of recompensing SANTOS for a fair proportion of the infrastructure provision and ensuring the levels of service provision required normally or in emergency.	2.3.3 2.3.6	1.3
A1.4	Stated their concern on over reliance on design technology and noted the necessity for careful operation of caustic soda washing plants and for the provision of smokeless flare combustion by air assistance.	2.3.4 2.3.5	1.4
A1.5	Claimed that hazard zones surrounding the feedstock storage tanks within the proposed refinery overlap SANTOS' contiguous land.	2.2 2.6.3	1.5
A1.6	Suggested new alternative sites for the proposed refinery.	1.5.3	1.6
A1.7	Claimed that a heavy emphasis has been placed on cost minimisation.	-	1.7

COMMENT NO.	AUTHOR OF PUBLIC SUBMISSION AND SUMMARY OF POINTS RAISED	DRAFT EIS REFERENCE	RESPONSE (SUPPLEMENT REFERENCE)
A2	**A.J.A. SCOTT**		
A2.1	Noted the disadvantages of the proposed site, on the basis of:	2.1 2.2	2.1
	o Drainage into Spencer Gulf.	3.2.8	2.1.1
	o Hazard zone encroachment into coastal recreation zone on Upper Spencer Gulf.	2.6.3	2.1.2
	o Visual encroachment on coastal zones.	3.4.8	2.1.3
	o Limitations on transport options to and from site.	2.7	2.1.4
A2.2	Suggested other site alternatives:		2.2
	o Tregalana Industrial Estate.	-	2.2.1
	o Westside of Weeroona Bay.	1.5.3	2.2.2
	o Rearrangement of proposed plant layout.	2.2	2.2.3
A3	**CORPORATION OF THE CITY OF WHYALLA**		
	Two points were raised by the Council.		
A3.1	o Access to Holding Dam System by animals or humans should be prevented.	-	3.1
A3.2	o The EIS should address the current conflicts between industrial use and recreational use of the area.	3.4.7 4.7	3.2
A4	**ENVIRONMENTAL PROTECTION COUNCIL**		
	Four issues were raised by the Council.		
A4.1	o Permission for native vegetation clearance during preliminary earthworks required under the Native Vegetation Management Act.	-	4.1

COMMENT NO.	AUTHOR OF PUBLIC SUBMISSION AND SUMMARY OF POINTS RAISED	DRAFT EIS REFERENCE	RESPONSE (SUPPLEMENT REFERENCE)
A4.2	o Topsoil and vegetation cleared during earthworks should be stockpiled for later use in revegetation and landscaping.	3.2.10 3.4.8 4.2	4.2
A4.3	o Treated refinery effluent should be reused for irrigation on site, wherever possible.	4.4	4.3
A4.4	o Feedstock supply from sources other than SANTOS would necessitate close re-examination.	1.3	5.21

APPENDIX B

SUMMARY OF GOVERNMENT COMMENTS

APPENDIX B SUMMARY OF GOVERNMENT COMMENTS

COMMENT NO.	SUMMARY OF POINTS RAISED	DRAFT EIS REFERENCE	RESPONSE (SUPPLEMENT REFERENCE)
B.1	Government required additional information on the aspects of:		
	o Hazard zones.	2.6.3	5.1.1
	o Flare design.	2.3.5	5.1.2
	o Ability of reformer and isomerisation unit to be operated during a power failure.	-	5.1.3
	o Ability of plant to process mixed condensates.	-	5.1.4
	o Ability of plant to process variable product mixes.	-	5.1.5
	o Ability of oxidation and stormwater ponds to contain rainfall events.	2.6.3 3.2.8	5.1.6
B.2	Required information on the method of clearing unexploded ordnance, and effects of explosion of tanker on access road alongside the existing condensate pipeline to SANTOS installation.	2.5.3	5.2
B.3	Required information on the sufficiency of product storage tank sizes.	2.4 A4	5.3
B.4	Required information to confirm that environmental discharges from reformer would conform to State Legislation when plant production of unleaded petrol is increased.	-	5.4
B.5	Required information on disposal and transportation of LVN and isomerates.	-	5.5
B.6	Stated the need to address balance in supply of distillates vs. premium motor spirit/unleaded petrol.	-	5.6
B.7	Required information on handling of waste liquor discharges during kerosene production.	2.4	5.7

APPENDIX B SUMMARY OF GOVERNMENT COMMENTS

COMMENT NO.	SUMMARY OF POINTS RAISED	DRAFT EIS REFERENCE	RESPONSE (SUPPLEMENT REFERENCE)
B.8	Asked justification for the removal of stormwater pond.	2.8.2 3.2.8	5.8
B.9	Expressed their concern on the proposed refinery's capability to meet certain specifications for jet fuel and fuel oil.	-	5.9
B.10	Stated that consideration should be given to the relocation of hazard zones and flame weir system.	2.6.3 2.8	5.10
B.11	Stated the necessity to amend the paragraph in the Draft EIS report, Summary Section, relating to noise emissions investigations by the DEP.	S.4	5.11
B.12	Stated the necessity to amend the paragraph in the Appendix A, Section A2.6, related to the maximum permissible noise levels.	A2.6	5.12
B.13	Expressed concern over the capability of Southern Cross Refinery to store condensate supplied by SANTOS without endangering State's Gas Supply.	-	5.13 5.13
B.14	Expressed concern over the fact that the products in the Iron Triangle Region of S.A. is dependent upon a reciprocal exchange of products in the Eastern States from other major oil companies.	2.7	5.14
B.15	Reminded the implications of Federal Government Crude Oil Allocation Scheme.	-	5.15
B.16	Asked the alternative plans for overcoming shortfalls in supply of condensate from SANTOS.	-	5.16
B.17	Stated their concern over cost estimation for the plant construction.	3.4.4	5.17

COMMENT NO.	SUMMARY OF POINTS RAISED	DRAFT EIS REFERENCE	RESPONSE (SUPPLEMENT REFERENCE)
B.18	Required more detailed analysis of the effect of the proposed refinery on existing employment at Port Adelaide, Port Piric and Port Lincoln.	3.4.4	5.18
B.19	Required the evaluation of the hazards associated with increased road transportation if the products are distributed outside the Iron Triangle Area.	2.7	5.19
B.20	Noted the need for the justification of site at Port Bonython in the event of feedstock not supplied by SANTOS.	1.3 1.5.3	5.20
B.21	Required the assessment of environmental implications of using alternative supplies of feedstock.	1.3	5.21

APPENDIX C

CONTRACT FOR

LAND SURVEILLANCE;

MARKING OF ORDNANCE;

DESTRUCTION OF ORDNANCE,

AT SOUTHERN CROSS REFINERY SITE

APPENDIX C

CONTRACT FOR LAND SURVEILLANCE; MARKING OF ORDNANCE; DESTRUCTION OF ORDNANCE AT REFINERY SITE - PORT BONYTHON

LOCATION: Port Bonython - refer to attached site map.

NOTATIONS: Site to be swept etc. is adjacent to SANTOS facilities and part of site was subject to the Clearance Contract undertaken by SANTOS Contract 1982/83 i.e. site plus corridor - refer to the map enclosed.

LAND TO BE SWEPT: 40 Hectares previously small armament firing range.

CONTRACT TO BE UNDERTAKEN: June, 1987 - approximately 1-2 weeks.

CONTRACTOR: Yet to be appointed, however, likely to be either the same Contractor as utilised by SANTOS Ltd. i.e. Rewuso Pty. Ltd., Army Ordnance Trained Personnel or a similarly qualified alternative.

The personnel are explosives experts and trained in locating, Marking and Destructing Ordnance.

METHOD OF WORK:

(a) A visual and mechanical detector sweep of the area.

(b) A mechanical slash and rip of the area.

(c) A further visual and mechanical sweep of the area.

(d) Marking of any ordnance.

(e) Disarming and disposing of any ordnance.

Land to be cleared both on and below ground surface to a depth of .3 of a metre.

COVERAGE REQUIRED: Based on that provided for SANTOS Contract.

1. Liability

   Indemnifying: Southern Cross Refiners Pty. Ltd.
   The Crown, Ministers,
   Government Officers or Agents
   Contractor.

2. Employers Liability

   Payroll $5,000 (based on SANTOS Contract)

3. Motor Vehicle

   (a) T.P.P.D. $5,000.000

   (b) Own Damage

- Four Wheel Drive Vehicle	$20,000
- Grader	$30,000
- Tractor & Ripper	$50,000

   (Based on SANTOS Contract)

APPENDIX D

S.A. COOPER BASIN UNIT CONDENSATE PRODUCTION

1983-2006

(Source : SA Dept. Mines and Energy)

FIGURE 1

0045

S. A. COOPER BASIN UNIT CONDENSATE PRODUCTION 1983-2006

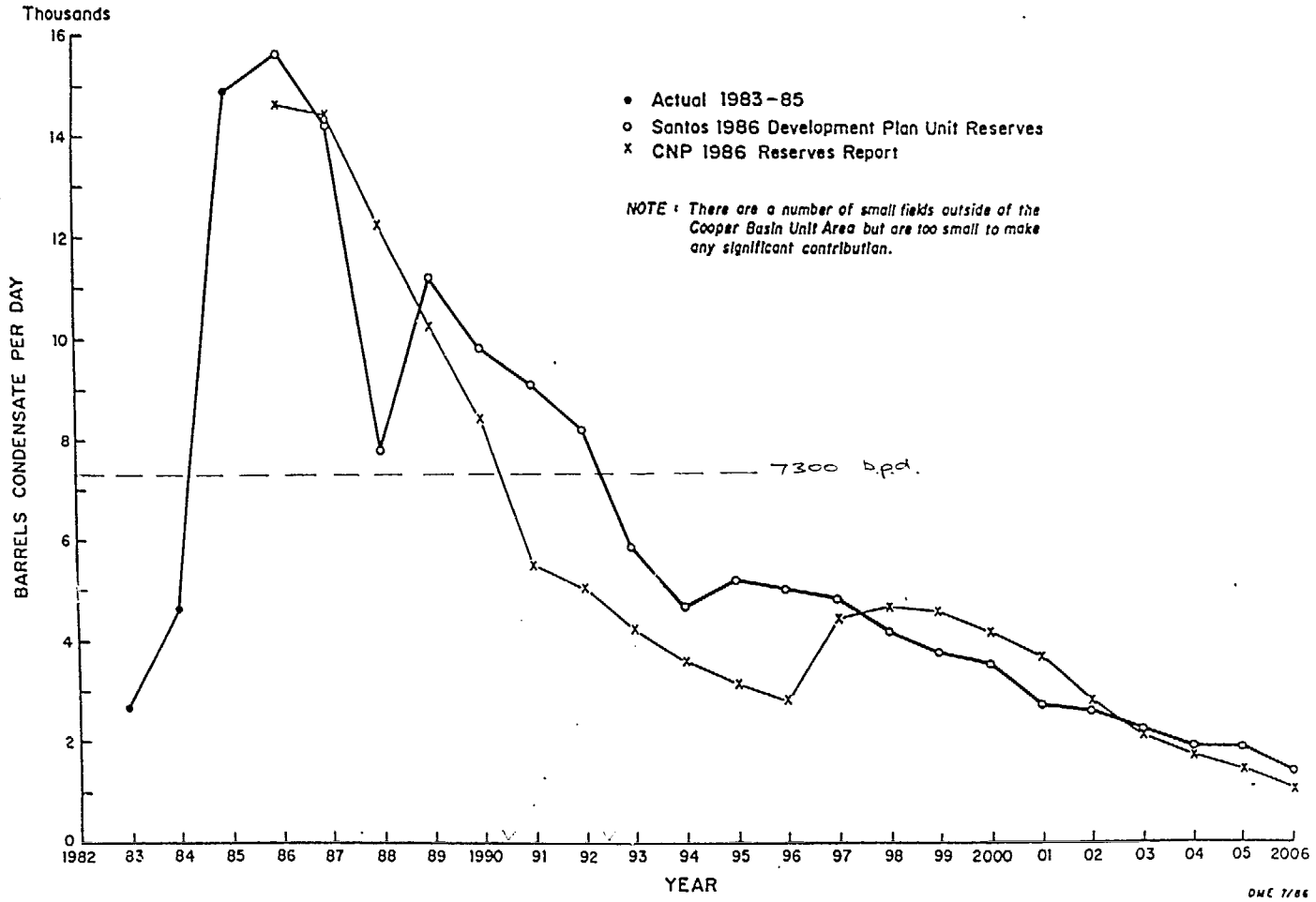

FIGURE 1

0046

S. A. COOPER BASIN UNIT CONDENSATE PRODUCTION 1983-2006