



## CHAPTER ONE

### INTRODUCTION, AIMS AND METHODOLOGY

#### ENVIRONMENTAL IMPACT ASSESSMENT

Environmental impact assessment (EIA) is a widely used term which lacks a universally accepted definition. There are even various definitions of the term 'environment' relating to either purely biophysical aspects or incorporating socioeconomic and cultural factors.

For example Clark (1983 pp.4-5) quotes four different definitions of EIA to illustrate the diversity of opinion:

- a) *...an activity designed to identify and predict the impact on the biogeophysical environment and on man's health and well-being of legislative proposals, policies, programmes, projects and operational procedures, and to interpret and communicate information about the impacts (Munn 1979).*
- b) *...to identify, predict and to describe in appropriate terms the pros and cons (penalties and benefits) of a proposed development. To be useful, the assessment needs to be communicated in terms understandable by the community and decision-makers and the pros and cons should be identified on the basis of criteria relevant to the countries affected (United Nations Environment Programme (UNEP) 1978).*
- c) *...an assessment of all relevant environmental and resulting social effects which would result from a project (Battelle Institute 1978).*
- d) *...assessment consists in establishing quantitative values for selected parameters which indicate the quality of the environment before, during and after the action (Heer and Hagerty 1977)*

Clark notes that whereas some of these definitions include socioeconomic effects (Munn 1979, UNEP 1978, and Battelle Institute 1978) the other (Heer and Hagerty 1977) refers only to the environment. Clark also notes that the UNEP definition implies that the relative importance, in local terms, of beneficial and adverse impacts should be taken into account in EIA, whereas the other three definitions suggest that EIA is an objective technical exercise with no decision making component. In addition, it is interesting to note that the definition of Munn (1979) is fairly broad in its application to include policies,

legislative proposals and programmes, whereas the other three definitions refer only to projects or developments.

Peter Wathern in his introductory guide to EIA (Wathern 1988, Chapter 1) notes that EIA has been regarded as both an art and a science and that the task of giving an up-to-date overview of EIA is clearly beyond the competence of one person. Wathern provides a good introduction to many of the recent reviews and textbooks on EIA (see Wathern 1988 pp 1-6) and defines it largely along the lines of Munn's (1979) definition quoted above although he does incorporate the need to communicate information to decision makers and refers to the argument of Davies and Muller (1983) for an extension of the definition to cover socioeconomic effects.

It is assumed in this thesis that a major purpose of EIA is to provide decision makers with knowledge of the potential environmental implications of proposed actions before they make their decision. 'Environment' is used here in a broad sense to include the socioeconomic environment as well as the bio-geophysical environment.

While EIA is taken to include environmental factors in a broad sense, it is recognised that there are other areas of impact assessment which are often studied in their own right such as social impact assessment (see for example McEvoy and Dietz 1977 and O'Riordan and Sewell 1981 pp19-20) and risk assessment (see for example O'Riordan 1979) which are both important elements of project appraisal and policy review. Another well documented area of assessment is environmental health impact assessment (WHO 1983, Gilad 1984 and Giroult 1988) which has recently received attention in Australia (Ewan et al 1992).

## THE ENVIRONMENTAL IMPACT STATEMENT

The application of EIA can occur at varying levels but it usually focuses on project development proposals and project management rather than policies, programmes or the drafting of legislation. Generally, EIA results in a formal document of some kind which, although the nomenclature varies around the world, is most commonly referred to as an environmental impact statement (EIS). Although minor differences exist in different countries, there is a general consensus on the content of an EIS (Wathern 1988, p6).

The EIS has assumed a major importance in the application of EIA to such an extent that the terms EIS and EIA are sometimes mistakenly interchanged. This may be because the EIS is locked into a very formal and visible process compared to many other EIA procedures. Although it would theoretically be possible to discuss the application of all levels of EIA within a system, including ad hoc and less formal EIA procedures, it is most

relevant to examine the formal EIS process which is a public process, has access to published documents and is readily comparable with procedures elsewhere.

In order to analyse the role of the EIS in South Australia it is necessary to examine both the types of projects to which the EIS criteria have been applied and also to analyse the various elements and processes involved in all of the EISs which have been completed in South Australia under the relevant legislation (Planning Act, 1982). It is also important to recognise that the role of the EIS will change over time. For this reason any discussion of EISs in terms of the legislative processes and practice of EIS procedures conducted under the Planning Act needs to be placed in context with proposed changes for EIA at the State and Commonwealth (of Australia) level.

## AIMS

This thesis aims to;

- 1) review the evolution of EIA in South Australia from its overseas origins, its development at the Australian Commonwealth level, and to examine the EIS process in South Australia
- 2) investigate the types of projects for which an EIS has been required under the South Australian Planning Act and determine the status of these
- 3) analyse the nature of all EISs completed under the South Australian Planning Act and the role of the EIS in the decision making process
- 4) discuss and draw conclusions on the current nature and role of the EIS in South Australia based on data relating to aims Two and Three above
- 5) review the proposed changes for EIA in South Australia within the framework of the South Australian Development Bill, moves toward a national coordination of EIA, and the development of State and Commonwealth environment protection authorities (EPAs)
- 6) discuss the current role of the EIS in the context of the proposed South Australian Development Act and Environment Protection Act together with Commonwealth initiatives and draw conclusions on the future role of the EIS in South Australia

## METHODOLOGY

The thesis is structured around the framework of the above six aims. The second chapter, focused on the first aim, provides a review of the origins of EIA and the evolution of the EIS as a major tool of EIA. Although EIA is currently practised in many countries of the world it is generally accepted that the modern EIA process and the development of the EIS emanated from the United States (US). For this reason the review focuses on the US system as a precursor to the development of EIA at the Commonwealth level in Australia. The discussion is based on a review of literature together with various pieces of legislation. This provides the context within which to examine the current South Australian system of EIA. The chapter finally examines the function of the EIS within the South Australian planning and development control system.

Chapter Three is structured around the second and third aims. Data for the second aim are collated from archival records of all decisions to invoke EIA legislation under the South Australian Planning Act over the period 1982-1992. These projects or developments are then grouped where possible to determine generic areas where the EIA legislation is being used. The chapter also examines how many of these EISs have been completed, whether or not the projects have been approved, rejected and to what extent there are any patterns emerging. This provides the background data related to the use of the discretionary criteria for determining an EIS in South Australia. The chapter then focuses in on the third aim by providing an overview of all the published documents for EISs completed under the South Australian Planning Act. These EISs are examined in terms of their content, environmental issues, public involvement and response, associated legislative requirements, nature of developer, assessment of EIS, dates and timing for elements of the process, political agendas, and decision making processes.

Chapter Four, structured around the fourth aim, provides a detailed analysis and discussion of the current role of the EIS in South Australia as determined from the data presented in Chapter Three. Some of the data, such as the timing for studies and numbers of public submissions lend themselves to simple statistical analysis and graphical presentation as an aid to further interpretation and the drawing of conclusions. The chapter then draws a number of conclusions on the current role of the EIS in South Australia based on both the legislation and the evidence of the EIS process in practice.

To achieve the fifth aim it is necessary to place proposed changes to EIA in the context of early attempts to initiate EIA reform in South Australia. This is contained in the fifth chapter which is based on legislative material, background notes and much unpublished material from government sources. This provides a framework for some of the perceived

benefits and disadvantages of the current South Australian system of EIA. These proposals are then placed in context with changes to EIA procedures that have actually taken place at the Commonwealth level, the development of a national agreement on EIA, and also the implications for EIA which are likely to flow from recent Commonwealth initiatives on ecologically sustainable development (ESD) strategies. At the State level the chapter examines the South Australian Development Bill, specifically those aspects of it relating to major projects and EIA. There is also a discussion of the function of both Commonwealth and State environmental protection authorities (EPAs) in terms of EIA responsibilities. Collectively these reviews and analyses provide the context of current thinking on EIA as it is likely to affect South Australian EIA processes in the future.

The sixth aim is picked up in the final chapter of the thesis which attempts to draw conclusions on the future role of the EIS in South Australia. This chapter provides a discussion of the current role of the South Australian EIS in the context of the evolutionary process of the EIS in South Australia, the current legislation and the EIS process in practice. In addition, the discussion incorporates the likely effect of proposed legislative changes in South Australia, together with other related initiatives such as the formation of EPAs and the development of a Commonwealth ESD strategy. It is recognised that this analysis touches on a number of grey areas such as determining levels of public participation, examining the political influences, and commenting on public administration and the actual practice of the EIA process as opposed to the theory of EIA and what is written into the EIA legislation. However, this final discussion and conclusion chapter is intended to provide an overview of the current role of the EIS and give some insight into the future of EIA in South Australia.

## CHAPTER TWO

# EVOLUTION OF EIA IN SOUTH AUSTRALIA AND THE EIS PROCESS

### EVOLUTION OF EIA OVERSEAS

Early forms of EIA were probably used for projects well before EIA became enshrined in legislation. For example, O'Riordan and Sewell (1981, p10) note the leadership of the geographer Harlan H. Barrows in the late 1930s investigation into the wider environmental and social effects of the grand Coulee Dam on the Columbia River in the State of Washington.

However, as Clark (1983) notes it is probably since the 1950s that there has been a focused attention on the interactions between development actions and their environmental consequences. This has resulted in public demand for environmental factors to be considered in the decision making process.

Initially projects were assessed using a variety of techniques such as technical feasibility studies and cost benefit analysis (CBA). CBA was widely applied in the 1950s as a way of expressing all impacts in terms of resource costs in monetary terms, although the better analyses included a statement of costs and gains that could not be evaluated in strict monetary terms. Another reason for the introduction of CBA was to avoid waste of public funds.

Clark (1983) refers to the proposed third airport at London and the Aswan dam as examples of projects which relied on CBA. The Aswan dam, for example had no modern EIA carried out and there was the opinion that the benefits would outweigh the costs. However, deleterious secondary effects such as the reduced importance of the Mediterranean fishing industry, the loss of agricultural productivity downstream, increased water borne disease and reduced water quality upstream, were largely unforeseen impacts which detracted from the economic benefits.

According to Clark (1983) when EIA was first conceived it was considered an add on to CBA. Because of this, early EIA often was used as another technique for collecting information rather than an integrated process as part of the decision making.

O'Riordan and Sewell identify four factors which they suggest led to the introduction of EIA:

- (a) *the growing scale and associated repercussions of resource development schemes;*
- (b) *the upsurge in vociferous and informed protest by well organised groups and individuals in opposition to many of these projects as initially conceived;*
- (c) *the patent inadequacies of regulatory agency coordination; and*
- (d) *the failure of prevailing assessment techniques adequately to recognise and incorporate environmental and social dislocations into project appraisal*  
(O'Riordan and Sewell 1981, p.10).

The need for major resource development (eg water supply, transportation, energy production, mineral extraction, agricultural improvement) often produced schemes which were so large that the side effects both to the environment and communities could no longer be overlooked. In addition, the speed and scale of postwar economic development became too fast for existing assessment processes.

The backlash from these schemes was associated with a proliferation of environmental groups which were better informed, had better tactics and began to use public figures, lobby groups and even engage in legal arguments (particularly in the US).

At the same time there was a lack of coordination between public agencies involved in promoting schemes, private development companies and the public regulation agencies. Not only was there a lack of coordination, but according to O'Riordan and Sewell (1981) there was also lack of ability to use evaluative techniques and consultative procedures necessary for proper environmental and social impact analysis, particularly in the US where some of the Federal agencies were at fault. This inability was also evident in other countries including Australia.

The fourth factor identified by O'Riordan and Sewell (1981) for the introduction of EIA was the inadequacy of existing techniques. As noted above accounting techniques such as CBA were used to avoid wasting public funds but were not flexible enough to cope with long-term environmental and social consequences. Another technique was Planning and Programme Budgeting (PPB) which was supposed to have defined goals and objectives in order to calculate the most productive means of achieving them. It was essentially a resource allocation mechanism which was supposed to cut across administrative boundaries but it was never very popular perhaps because of a reticence of politicians and

their advisers to commit themselves up front to policies and objectives. A further technique, Cost Effectiveness Analysis (CEA), was introduced as a compromise between CBA and PPB but in reality was another economic technique which fell short of assessing the broad environmental impacts.

The failure of these techniques together with an increasing concern over the environmental impact of development in general, clearly pointed to the need for an alternative assessment technique.

## THE UNITED STATES ENVIRONMENTAL POLICY ACT

It was against this background that EIA evolved and it is generally agreed that the present day EIA stems from the US National Environmental Policy Act (NEPA) which was introduced in 1969 and signed into law on the first day of January 1970.

There are of course many other earlier pieces of legislation which had important environmental implications. Examples in the United Kingdom include the Rivers Prevention of Pollution Act 1951, and Clean Air Act 1956, and in the United States the Federal Water Pollution Control Act 1956, the Clean Air Act 1963, and the Water Quality Act 1965.

There was even an attempt to introduce environmental legislation in the US in 1959 with the Resources and Conservation Act (Porter 1985 p34) which, although it was rejected, proposed

- an Environmental Advisory Council to the President
- a Congressional Committee on Resources and Conservation
- a annual report on resources and conservation to be submitted to the President.

Ten years later the NEPA was introduced but it is difficult to judge the NEPA by looking at the legislation itself because there has been over 20 years of litigation through the courts which have been sorting out the process, setting precedents, making rulings and essentially developing guidelines for the evolution of EIA. The NEPA requires any major Federal projects which could significantly affect the environment, to be accompanied by a detailed statement. This is essentially the origin of the modern EIS. In this statement the NEPA (Section 102(2)(C)) requires an evaluation of the following:

- 1) *The environmental impact of the proposed action*
- 2) *Any adverse effects which cannot be avoided should the proposal be*



*implemented*

- 3) *Alternatives to the proposed action*
- 4) *The relationship between local short-term use of man's environment and the maintenance and enhancement of long term productivity*
- 5) *Any reversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented*

These requirements apply not only to Federal projects but also to activities requiring Federal permits and to Federal grants. In addition there is a requirement to consult with and obtain comments of Federal, State and local agencies with environmental expertise. Public disclosure of the EIS is also required. Therefore a situation was created to provide opportunity for debate and a forum of judicial review over environmental matters and compliance with the NEPA.

The NEPA also set up a Council on Environmental Quality (CEQ) to monitor its implementation. The CEQ brought out EIS guidelines in 1971 and 1973 and subsequently made changes to the regulations in 1978. The intention of the legislation was a clear break from basic economic accounting to a broader analysis of environmental considerations.

One big problem with the NEPA is perhaps the time and cost of litigation. Approximately 10 percent of all Federal projects for which an EIS was prepared during the first 13 years of NEPA operation had lawsuits filed (Anderson 1986). Often stalling tactics have brought projects to an end. However such problems with the NEPA system have to be weighed up against the environmental assessment problems of those countries which have a lack of formal procedures.

The NEPA has been thought of as a revolutionary process and referred to as; the 'environmental Magna Carta' (Fairfax and Ingram 1981). According to Fairfax and Ingram it relies on the conviction that improving the process of decision making will necessarily improve the quality of the decisions. They suggest that although the NEPA was authorised in 1970 it is firmly based in the 60s and although it has become a rallying point and an important tool it is not necessarily grounded in radical reassessments and changed priorities.

The NEPA has been described variously as: an attempt to improve decision making by making decision making more rational, compelling Federal decision makers to consider the environmental consequences of their actions, forcing consideration of alternatives, requiring full environmental disclosure, involving the public in decision making,

providing a political focus for bureaucratic reform, and most of all providing a new and coherent policy for the environment.

As noted above the NEPA process requires that each agency has to prepare an EIS to accompany proposals for major Federal actions which could significantly affect the human environment. The role of the EIS has been refined through various court decisions but it stands as an interdisciplinary approach to include environmental, aesthetic and non-quantified aspects of the proposal, assessment of alternatives and the opportunity to review and comment. Thus from 1970 in the United States, projects not only required a thorough interdisciplinary investigation, but also required all the alternatives to be addressed.

Although the NEPA rapidly acquired environmental prominence its success is probably attributable more to its timing (Fairfax and Ingram 1981). It was brought in at a time of a rapidly expanding environmental movement and politicking of environment protection. Public debate, an increased interest in environmental law and a few initial victories caused the environmental movement to become enthusiastic over the EIS process. In this manner the NEPA assumed a greater importance than it might have otherwise attracted.

A landmark case in legal battles was the Calvert Cliffs ruling where citizen action was taken against the Atomic Energy Commission and construction of a nuclear reactor plant was halted because of the inadequacy of the EIS (Council on Environmental Quality 1979). Other court decisions progressively strengthened the value of EIS litigation as a major environmentalist strategy and the NEPA assumed a major importance in the general goal of environmental protection.

According to Fairfax and Ingram (1981) a major factor in the growing support of the NEPA was the proliferation of environmentally oriented law firms which were underwritten by donors such as the Ford Foundation. Talent, organisation and funds suddenly became available to environmentalists so that almost any EIS might be challenged in the courts, which were able to review the agency activity to check if it conformed with requirements. In addition, the ambiguity in the way the Act is written left it wide open for legal interpretation. Although the NEPA success was related to its timing together with its public appeal and a national environmental concern, it was the consolidation of the NEPA by the courts which has been a major factor in its acceptance.

The NEPA has not been without its problems, such as the 10 percent of all projects ending up in law suits, or an overemphasis on procedures rather than substance. Many agencies became pre-occupied with producing an EIS which would stand up in court

rather than one which was useful to decision makers. This together with an overemphasis on marginally related information and the production of bulky EISs caused some concern.

In 1978 new regulations were issued designed to make the EIS more useful to decision makers and to reduce the paperwork and extraneous background data. Two concepts of 'Scoping' and 'Tiering' were introduced to the process. Scoping, defines an early and open process to narrow the discussions in the statement to issues which are significant and which are not covered in previous or existing EIS processes (this could include page limits and time limits on preparation). Tiering, encourages agencies to eliminate repetitive discussions from sequential statements on related topics and avoid matters which have already been dealt with or others that it is too early to deal with. In addition the agency is required to produce a concise record of how the EIS was used in the decision making process and to identify the environmentally preferred alternative.

There are numerous interpretations of the evolution and success or failure of the NEPA but it is generally accepted that the United States experience has provided the starting point of EIA and in particular the EIS. The process has been used to advantage by environmentalists through numerous court rulings so that eventually the production of EISs should become less susceptible to procedural problems and focus in more on the environmental impact.

#### DEVELOPMENT OF AUSTRALIAN COMMONWEALTH EIA LEGISLATION

Within two years of the NEPA the Australian Environment Council established a working party on Environmental Impact Assessment procedures. In 1972 the NSW government and the Commonwealth government introduced the EIA process in general terms into legislation but it was not until 1974 that the full Commonwealth EIA legislation was introduced.

The Commonwealth EIA legislation was introduced in December 1974 and is called the Environment Protection (Impact of Proposals) Act. The Act allows for the Minister for Environment to require an EIS for any proposal likely to have a significant or controversial impact on the environment. This applies to projects conducted or funded by the Commonwealth government or requiring its approval. The Act has been administered by the Department of Arts, Sport, the Environment and Territories (DASET) and since 1991 has been the responsibility of the Commonwealth Environmental Protection Agency (CEPA) which was created in August 1991 as a separate organisation within DASET. Since the 1993 Commonwealth election, DASET is now DEST since the Arts have been dropped from the portfolio.

The Act falls into three parts. Sections 1-5 deal with definitions, the object of the Act and the range of matters to which it applies. Sections 6-9 provide for the preparation of separate administrative procedures for EIA and Sections 11-25 deal with provisions for separate public environmental inquiries. The administrative procedures came in July 1975. There have also been some amendments to the Act and procedures in 1987, one of which was the introduction of an intermediate level of assessment called a public environmental report (PER).

In the Act the term 'environment' is referred to as *all aspects of the surroundings of human beings* and includes the natural environment, the built environment, and social aspects of our surroundings. The definition covers such factors as air, water, soils, flora, fauna, buildings, roads, employment, housing and recreational facilities.

Generally, proposals fall into one or more of the following categories:

- Activities and Projects carried out by Commonwealth departments and authorities (eg defence projects, railways, national highways, airports, postal and telecommunication facilities, development on commonwealth land)
- Commonwealth Grants for Projects (eg bicentennial road programmes, international sports facilities, special grants)
- Projects requiring Commonwealth Approvals for exports (eg uranium, coal, iron ore, mineral sands, aluminium, oil, gas and woodchips)
- Foreign Investment Projects (eg mining, manufacturing, real estate and tourist development)

Not all projects under the above categories are subject to assessment unless there is likely to be a significant impact. There are four levels of assessment:

- examination but no EIS or PER
- assessment after preparation and public review of PER
- assessment after preparation and public review of EIS
- commission of inquiry

Out of around 2,500 proposals submitted up until June 1992, 132 have been subject to an EIS, 23 have been subject to a PER since 1987, and there have been three inquiries.

There are a number of procedural steps which are outlined in separate administrative procedures to the Act. The main procedures are as follows:

- the proponent of a proposed action is designated. This could be a Commonwealth department or authority, or a private sector body
- proponent provides preliminary documentation, usually a notice of intent (NOI) which describes the proposal, the environment to be affected, the expected beneficial and adverse impacts, any alternatives to the project, and the proposed environment protection measures
- the information is assessed by DEST which administers the Act through the CEPA
- EIS or PER if necessary
- guidelines
- documentation and public review
- proponent revises EIS not PER
- department assessment
- minister makes recommendations, comments or suggestions

The first step rests with the Action Minister (not necessarily the Minister for Environment) who is the Minister of the department which would be responsible for the proposed development or action. If the Action Minister does not consider it appropriate to refer the proposed action to the Environment Minister then the Act is not invoked.

The next step is to provide a NOI which according to the administrative procedures (Section 2.2) must include the following information:

- a summary of preliminary plans and any alternatives which have been considered
- a description of the environment likely to be affected by the proposed action or by any alternatives
- an assessment of the potential environmental impacts of the proposed action or any alternatives, including any beneficial impacts
- a description of any environmental protection safeguards or standards which are intended to be implemented in relation to the proposal
- a statement of any environmental impact investigations or studies intended to be carried out in relation to the proposed action

The Minister can require either an EIS or a PER to be prepared but the Department (DEST) can determine if an EIS or a PER is not required. In order to arrive at such a decision the Department or the Minister must consider Section 3.1.2 of the Administrative procedures as to:

- a) whether and to what extent the proposed action would result in:
  - a substantial environmental effect on a community

- the transformation of a substantial area
  - a substantial impact on the eco-systems of an area
  - a significant diminution of aesthetic, recreational, scientific or other environmental quality, or value of an area
  - an adverse effect upon an area, or structure, that has an aesthetic, anthropologic, archaeological, architectural, cultural, historical, scientific or social significance or other special value for the present or future generations
  - the endangering, or further endangering, of any species of fauna or flora
  - important long-term effects on the environment
  - the degradation of environmental quality
  - curtailment of any beneficial uses of the environment
  - the pollution of the environment
  - environmental problems associated with waste disposal
  - increased demands on natural resources which are likely to be in short supply, and
- b) any environmental assessment action taken relevant to the proposed action by any State or the Northern Territory or authority of a State or the Northern Territory.

There is also a provision within the Act whereby an EIS or a PER will not be required if it is determined to be contrary to the public interest.

Both an EIS and a PER must contain a clear and concise summary of the content, and the presentation of the report must be such as to minimise costs of production and therefore make it more available to the public. However the content of the EIS and the PER differ slightly. According to the procedures under the Act an EIS (Section 4.1) should:

- state the objectives of the proposal
- analyse the need for the proposal
- indicate the consequences of not taking the proposed action
- contain a description of the proposed action
- include information and technical data to permit a careful assessment of the environmental impact of the proposed action
- examine any feasible alternatives
- describe the environment likely to be affected by the proposal or by any alternatives
- assess the potential environmental impact of the proposal and any alternatives, including primary, secondary, short-term, long-term adverse and beneficial effects on the environment
- outline the rationale for the proposed action
- assess the effectiveness of any proposed environmental safeguards or standards

- including implementation methods and proposed monitoring arrangements, and outline sources of information relied upon

A PER has somewhat less detailed requirements (Administrative Procedures, Section 4.2) and must:

- summarise the proposed action and any alternatives, and describe any aspects likely to significantly affect the environment
- describe the environment likely to be affected by the proposal and any alternatives
- indicate the potential environmental impact of the proposal and any alternatives, including beneficial impacts
- outline the rationale for the proposed action
- assess the effectiveness of any proposed environmental safeguards or standards intended to be adopted
- state any further studies intended before the proposed action takes place, and
- state any intended environmental impact monitoring to take place

Once the EIS or PER has been prepared they are placed on public exhibition for a minimum period of 28 days, although the EIS period is often extended. In the case of the EIS, the proponent has to revise the document to take into account written comments received from the public and/or the Department. Upon receiving the final EIS the Department has 42 days to prepare a report for the Minister. In the case of a PER no revision is required and only 28 days are allowed for the department to complete its report. The Minister for Environment then makes recommendations or suggestions about the proposal and communicates these to the Action Minister who then has to take these into account in making a decision.

#### EIA IN SOUTH AUSTRALIA PRIOR TO 1982

Between 1973 and 1982, EIA was conducted in South Australia through the Commonwealth EIA legislation or by administrative arrangements. In the 70s Cabinet agreements in 1977 and 1979 provided the basis for State government support of the EIA process. Both the EIS and the PER were used during this period although the PER was not introduced into the Commonwealth legislation until 1987 and still does not exist in the current South Australian legislation.

The earlier Cabinet agreement (14/6/77) sets out arrangements between the then South Australian Department for the Environment and the Commonwealth department of Environment, Housing and Community Development concerning co-operation in the

environmental assessment of proposals. The agreement sets out objectives, clarification of responsibilities (particularly the powers of the State and the Commonwealth and projects involving Commonwealth funding) and environmental assessment procedures. The agreement specifically does not apply to proposals concerning the territorial sea. The Cabinet agreement is specific about the assessment of a proposal involving both the Commonwealth and the State but says very little about EIA criteria within South Australia.

A subsequent Cabinet agreement (21/9/79) provides an endorsement by the South Australian government for the application of EIA procedures to environmentally significant proposals for both the public and private sector. This agreement also noted that at that time the EIA practice in South Australia operated at two levels (this appears to relate only to Government projects). First an NOI was prepared by the relevant government Department/Agency and this was assessed by the Department of Environment. In only a few cases was an EIS required. The agreement acknowledges the use of the EIS within South Australia as a public process, with opportunity for public comment, applicable to both government and private projects. The agreement refers to a commitment to EIA within the Government's election platform but stressed that this did not mean that environmental factors would override technical, economic or social factors.

Up to 1982 EISs were conducted on a number of projects such as mining, electricity transmission lines, drainage, flood mitigation, a petrochemical plant, railway, road bridge, pipeline and a boating facility. In the same period PERs were conducted for projects of less impact such as communication towers, a construction camp, a gas turbine generating plant, sanitary landfill projects, a road realignment, coastal protection measures and a lake salinity study.

The role of the 'EIS technique' within the planning process in South Australia was discussed by Evans (1976) with reference to the early years of the South Australian Department of Environment and Conservation. Evans refers to the incorporation of environmental objectives into planning and development legislation, and mining legislation. However, Evans noted the delay in the introduction of 'EIS legislation' into South Australia and anticipated its introduction to parliament in 1976 (Evans 1976, p33), an event which did not happen. In conclusion, Evans suggests that although *the EIS is a reactionary mechanism resulting from defects in the planning system*, it would have a beneficial effect on the system. He goes on to suggest that *the EIS document may disappear in time but not the process* (Evans, 1976 p93). Here, Evans seems to confuse the EIS with the EIA process in general.



It was not until 1981 when South Australian legislation was drafted to incorporate EIA. At this time, just before the legislation was passed, Fowler (1982) conducted a major review of planning and pollution measures in Australia. As part of this discussion, Fowler outlined the proposed inclusion of EIA within South Australian planning legislation, an event which occurred immediately after his monograph was prepared on behalf of the Commonwealth government.

## EIA WITHIN THE SOUTH AUSTRALIAN PLANNING ACT 1982

Environmental impact assessment (EIA) became part of the planning and development control process in South Australia by the inclusion of legislative powers within the Planning Act, 1982 and the regulations under the Act. This inclusion of EIA with planning legislation has also occurred in New South Wales and Victoria whereas Western Australia and to a certain extent Tasmania incorporate EIA within environment protection legislation (see Bates 1992).

The South Australian planning and development control process and the role of EIA within this system have been broadly described by Hodgson (1984) and Mant (1982). A more detailed discussion of the integration of EIA and planning in South Australia is given by Fookes (1987a) who examines both the theory and practice of EIA, using specific case studies. In another article, Fookes compares EIA in South Australia with the UNEP goals and principles for EIA (Fookes 1987b) and concludes that on paper there is general agreement, but he points out that this is not necessarily the case in practice.

Under the Planning Act, 1982, EIA of projects is dealt with at two levels, minor and major. Minor projects are subjected to an often *ad hoc* form of EIA in that environmental factors are taken into account by either local council or State government officers in their assessment of a particular proposal. Most minor development proposals are dealt with by local government in accordance with delegations to local councils. However, in some cases the council has to refer matters to the South Australian Planning Commission (SAPC) for a report or a decision. In these cases the Department of Environment and Planning (DEP) prepares the background material and incorporates an EIA where appropriate, although this is not a formal requirement. Since 1992 this function is performed by the Office of Planning and Urban Development (OPUD). The SAPC then takes the EIA into account in making a decision or providing a report as follows:

- making a decision on minor development proposals which it is required to under the Planning Act or associated Regulations
- providing a report requested by a local council for a minor development proposal

- providing a report for the Minister of Environment and Planning (currently the responsible Minister is the Minister for Planning and Urban Development) for a mining production tenement which has been referred by the Minister of Mines and Energy
- providing a report for the Minister for Environment and Planning on a Crown or Crown agency development which has been referred under the Planning Act

The EIA of major developments or projects is dealt with largely through the EIS process, although there are no clear cut criteria for defining a 'major' as opposed to a 'minor' project.

### THE EIS PROCESS IN SOUTH AUSTRALIA

An EIS can be called under the Planning Act *where a person proposes to undertake a development or project that is, in the opinion of the Minister (for Environment and Planning), of major social, economic or environmental importance* (Section 49(1), Planning Act 1982). The same criteria apply in Section 50, but this section is used when the Governor is of the opinion that a declaration under this Division is necessary to obtain adequate control of development of major social, economic or environmental importance" (Section 50(1), Planning Act 1982). In this case the Governor then becomes the Planning authority and there is no right of appeal. There is also a provision under Section 50 to apply the EIS provision to either specific or general types of development throughout the State or within specified areas.

The requirements for an EIS in South Australia are not specified in any subordinate legislation but the interpretation of the term 'environmental impact statement' is given in the preliminary part of the Planning Act (Part 1, Section 4(1)). This states that an EIS in relation to a development or other project, means 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 or project into effect; and*
- (d) *any other particulars in relation to the development or project required-*
  - (i) *by regulation*
  - or*
  - (ii) *by the Minister:*

In addition Chapter 7 of the Procedures Manual for Development Control is specifically written on procedures for EIA and includes factors considered by the Minister in determining whether an EIS is required, contents of a preliminary NOI, contents of an NOI, contents of an EIS and a checklist of factors for determining whether EIA is required. However, the South Australian procedures manual has no status unlike the administrative procedures under the Commonwealth legislation which are approved by the Governor-General as an order under sub-Section 6(1) of the Environment Protection (Impact of Proposals) Act, 1974.

Although the EIS provisions under Section 49 of the Act do not specifically apply to Crown developments, Section 7 of the Act assumes that EISs may be prepared for Crown developments in certain circumstances. In practice EISs have been called on Crown or Crown agency developments and the general EIS provisions of Section 49 have been applied. However, there are a number of exemptions to this Section 7 requirement to give notice. These exemptions, listed under Regulation 59 of the Planning Act, avoid the need for notice to be given where there is reconstruction, repair, alteration or maintenance of services such as roads, bridges, railways, drains, pipes, underground cables, water treatment stations or water pumping stations. Power line construction, repair and maintenance is also exempt, apart from the construction of lines with a capacity of 33kV or more. In addition development of land dedicated under the National Parks and Wildlife Act is excluded, provided it conforms with an approved management plan.

Section 59 of the Planning Act deals with mining and relates the powers of the Planning Act to the State mining acts (Mining Act 1971, Petroleum Act 1940 and Petroleum (submerged lands) Act 1981) and the responsibilities of the Minister of Planning in relation to the Minister for Mines and Energy. Either of these two Ministers have the power to invoke the EIA legislation in regard to mining projects.

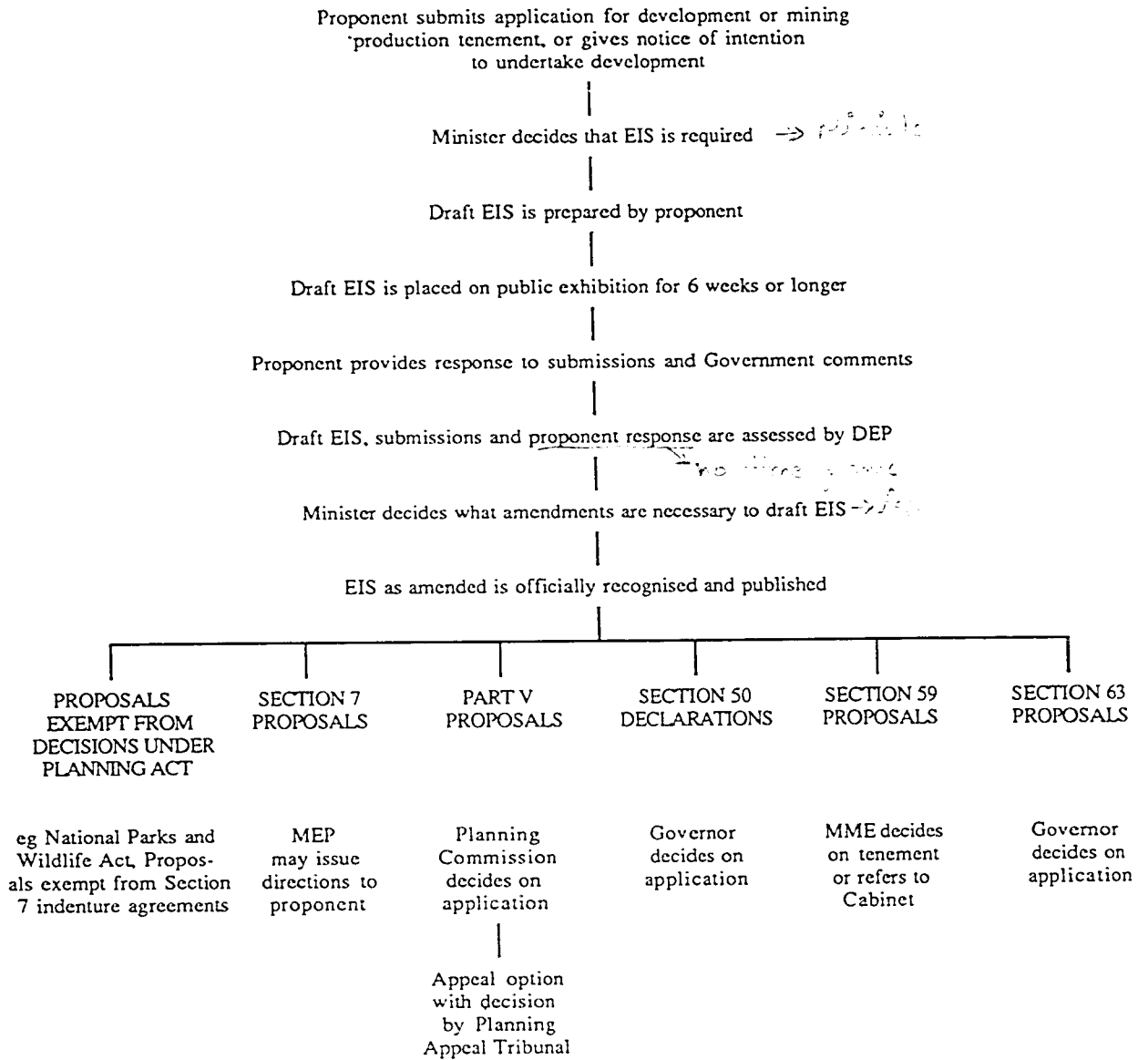
Another little used section of the Planning Act is Section 63, which essentially allows the Minister for Environment and Planning to submit a scheme *involving the acquisition, development, management or disposal of land*. to the Governor. The intent of this section is to provide a mechanism for State government schemes to obtain approval provided affected councils and landowners have had an opportunity to make representations to the Minister.

The EIS procedures in South Australia are illustrated in Figure 2.1. In practice they can be summarised as follows:

- It is the responsibility of the proponent to prepare a draft EIS in accordance with guidelines prepared by the DEP (now OPUD), although the guidelines have no status in the legislation (they are however, individually tailored for each project)
- The draft EIS is placed on public exhibition for a minimum period of six weeks (generally public libraries and relevant local council offices) during which time public comment is invited (*nb* the minimum period was eight weeks up until 1985 when the Planning Act was amended)
- Public submissions are forwarded to the proponent together with Government agency comments and the proponent is required to respond to these
- The proponent's response, if satisfactory (in the opinion of the Minister for Environment and Planning), is released publicly but not for further public comment
- The DEP (now OPUD) prepares an Assessment Report, although this has no status in the legislation
- The Minister for Environment and Planning considers the draft EIS, the submissions on it, the proponent's response and the OPUD Assessment Report and determines what amendments are necessary (in practice the Assessment Report is often taken as adequate for the purposes of amendments to the EIS, although this has never been challenged) before giving notice to the proponent that the statement is "officially recognised" (Planning Act Section 49(3), 1982).
- The officially recognised EIS is then used by the relevant planning authority which must in making its decision have regard to the EIS.

As shown in Figure 2.1 there are seven potential avenues for decision making on EIS projects. Prior to 1985 there was an eighth which allowed local councils to make a decision on some projects. This avenue was removed by an amendment to the Planning Act in 1985. Currently any private development or development by a council which is subject to an EIS has its decision made by the SAPC which must have regard to the Development Plan and also to the EIS in making its decision. There is provision for third party appeal rights to the Planning Appeal Tribunal.

For all other decisions there are no rights of appeal. Where Section 50 is invoked and the EIS has been completed, the decision is made by the Governor under Section 51 of the Act and there is no appeal. Where Section 59 of the Act is used, the final decision is made by the Minister for Mines and Energy after receiving a report from the Minister for Environment and Planning via the SAPC. A dispute between these two ministers would be resolved by the Governor via Cabinet. Where Section 7 of the Act is used for Crown development the decision is made by the developing authority after receiving any directions from the Minister for Environment and Planning who usually bases these upon



NOTE: DEP = Department of Environment and Planning (currently, Office of Planning and Urban Development)  
 MEP = Minister for Environment and Planning (currently, Minister for Housing and Urban Development)  
 MME = Minister for Mines and Energy

Figure 2.1: EIS procedure under the South Australian Planning Act

a report from the SAPC. There is also a requirement that, where an EIS is required, this SAPC report is laid before both houses of parliament. Where Section 63 of the Act is used the decision is made by the Governor and there is no right of appeal. In the case of an indenture agreement between the government and the developer, the development is usually removed from the influence of the planning legislation and there is no appeal.

The Planning Act does not include development within the City of Adelaide which has its own City of Adelaide Control Act 1976 and contains a provision (Section 26) whereby the Governor can call for an EIS within the city of Adelaide. In this case the Governor would also be the decision maker.

Section 49 of the Planning Act refers to a development or a project so that it is possible that a project which does not constitute development under the definition of the Act, could also be subject to a EIS requirement. This may include an activity such as the draining of a swamp but does not include policy matters.

It is clear that the EIS requirements are reserved for the analysis of major (as opposed to minor) projects, and should provide a greater environmental scrutiny for those projects than would otherwise be required. In this sense the intent of the legislation is fairly clear and is consistent with the purpose of EIA as shown in its origins and development overseas.

However, as noted by Fookes (1987a, 1987b) there is a difference between the clarity and the intent of the legislation and what actually happens in practice. For example, Fookes (1987b) makes the observation that, in his view, the EIS process in South Australia is becoming a review of potential environmental effects and possible mitigation measures, rather than a critical part of the decision making process. As shown by Fookes, it is particularly important in South Australia to examine what happens in practice because of the discretionary criteria for determining the need for an EIS and the various avenues for decision making involving EIS projects. This approach has been adopted in this thesis.

The EIS process in South Australia has been criticised by some proponents and consultants, particularly over rejected proposals. Kinnaird, who was involved with the EIS process as both a developer and as a director of an EIS consulting firm, has been an outspoken critic of the process following the rejection of a marina proposal put forward by his company at Glenelg. In addressing a real estate convention in 1987, he suggested that the EIS process in South Australia does not provide a mechanism *for resolving technical conflicts between developments and their environmental effects or for resolving political conflicts between developers and the conservation movement* (Kinnaird 1987

p1). He makes a further suggestion that *there is a need for an interactive rather than an adversary process to be developed* (p5).

Kinnaird continued his attack in an address to a mining and metallurgy conference in 1989. He suggests that *developments and governments are seeking ways to avoid the process* (Kinnaird 1989 p2). He also suggests that there are problems because policy and design assumptions are made for a development proposal before the EIS, that the EIS does not address issues related to resource management in a broader context, and there are no provisions for monitoring or for changes in project design (Kinnaird 1989). Although Kinnaird's comments represent those of a frustrated developer, a few of his comments raise some deeper issues with the process.

Similarly Jenkins (employed by the same consulting firm of which Kinnaird is a director) criticises the EIS process in South Australia for attempting to resolve policy rather than project issues (Jenkins 1990). His criticism, aimed at defending the professionalism of the EIS consultant, relates largely to the same rejected marina project referred to by Kinnaird (1987, 1989).

The application of the discretionary criteria has been criticised by Damania (1992), who also criticises the South Australian EIS process for not enough public involvement, lack of public accountability for decision making, a failure in accounting for all the costs and benefits of a project and a failure to assess the cumulative impact of developments. These criticisms are not new and apart from two references to Burns et al (1989) Damania's brief overview of South Australian EISs and suggested improvements to the system (Damania 1992) lacks any reference to relevant legislation and lacks discussion of previous reviews, government reports or academic articles on the EIS process. Damania does pick up some useful suggestions for improving the system such as the establishment of an autonomous agency and broadening the scope of the EIS to include wider social and environmental effects but unlike Fookes (1987a, 1987b), Damania (1992) generally lacks a thorough understanding of the EIS system as practised in South Australia.

It is clear that any discussion of the role of the EIS requires both an examination of the legislation and an understanding of the administrative procedures. As noted by Fookes (1987a, 1987b), it is also necessary to examine the use of the EIS in practice. This thesis examines all of the completed EISs from the inception of the Planning Act in 1982 up until the present day in order to gain a perspective on both the role of the EIS and any changes to its role over this time. The following chapter examines the types of projects or proposals for which an EIS has been required and examines in more detail the EISs which have actually been completed and officially recognised pursuant to the Planning Act.

## CHAPTER THREE

### THE EIS IN SOUTH AUSTRALIA SINCE THE INTRODUCTION OF THE PLANNING ACT IN 1982

Since the introduction of the Planning Act in 1982 (assented to on 21 January 1982) the Minister for Environment and Planning has called for (as of the 21 January 1993) a total of 60 environmental impact statements (EISs) to be prepared for various development proposals. These have been called under sections 49, 50 and 59 of the Planning Act and the decisions for these projects have been made under various sections of the Planning Act apart from those projects exempted from approval under the Act. This chapter examines briefly the types of projects for which the EIS requirements have been applied and then attempts to give an overview of each EIS which has been given official recognition under the Planning Act and has therefore been completed (a total of 34). Apart from the published EIS documents much of the data used in this chapter comes from Government files and personal knowledge of the EIS process over an eight year period. Thus the source material is both original in its presentation and difficult to obtain without the practical and professional experience with many of the projects.

#### TYPES OF PROJECTS WITH EIS REQUIREMENTS

Out of a total of 60 projects which have had EIS requirements in South Australia, just under half (27) have been for marina proposals (Table 3.1). Compared to the marinas, there is no other similar sized generic group of projects in South Australia which have had EIS requirements. As shown in Table 3.1 EISs have been called for five tourist related projects, five industrial projects, four power generation related projects, four electricity transmission line projects, four transport projects, three mining projects, three water management projects, two waste management projects, two urban development projects and one defence project.

Table 3.1 shows that 23 out of the 34 EIS completed projects have been approved and seven rejected. The remaining two EIS completed projects have not to date required a decision to be made. The seven rejected projects actually come from only four sites and there are still active EIS projects at two of these sites (Glenelg and Mount Lofty) which are currently the subject of government investigation in an attempt to negotiate



environmentally acceptable projects. In fact, a revised Mt Lofty project was approved in April 1993. Therefore, effectively there are only two sites where all aspects of an EIS project have been completely rejected.

As shown in Table 3.1 it is noticeable that out of all the EISs required just under half (26) have not been completed. This is most marked for the marina projects where 13 of the EISs required have yet to be completed. The reason for this is mostly because a number of marina EISs are still in progress but also in part because some marina projects have been abandoned before an EIS was ever completed. Five projects fall into this category and although the causes for abandonment are varied, early exposure of privately or local government backed marina projects and the resultant public opposition have been key factors in the abandonment of at least two of these five projects.

**TABLE 3.1 EIS's REQUIRED UNDER THE SA PLANNING ACT**

	number of EISs required	EISs completed	EIS projects approved	EIS projects rejected	EIS projects commenced
marinas	27 <sup>1</sup>	14	6	6 <sup>2</sup>	4
industrial	5	4	4	0	1
tourist	5 <sup>3</sup>	3	2	1	0
transmission	4	4	4	0	3
power	4	2	2	0	1
transport	4 <sup>4</sup>	1	1	0	0
mining	3	1	0	0	0
urban	2	2	1	0	1
waste	2	1	1	0	1
water	3	1	1	0	1
defence	1	1	1	0	1
TOTALS	60	34	23	7	13

<sup>1</sup>Four of these were called for separate marina projects at the same site (Glennelg), and two have been called for separate marina projects at another site (Marino Rocks)

<sup>2</sup>Four of these were at the same site (Glennelg) of which one was rejected on its own merits and three were 'not selected' (rather than rejected) in competition with a fifth project at the same site

<sup>3</sup>Two of these have been called for separate projects at the same site after the first of these projects was rejected (Mt Lofty), although the EIS requirement for the second project has subsequently been withdrawn

<sup>4</sup>One of these subsequently had its EIS requirement withdrawn

In contrast the bulk of the other 13 uncompleted EISs are State government projects which have not been completed for policy reasons. For example three lignite mining projects and two related coal fired power station projects have not had EISs completed because of a reassessment of the State government energy policy. However, the South Australian legislation makes no provision for calling an EIS on policy matters. There are also two projects where an EIS has been required and then that requirement has been withdrawn

(the Third Arterial Road and the revised Mount Lofty projects). The Third Arterial Road project is a Government scheme and the revised Mount Lofty project has had significant Government involvement (and has now been approved).

Given the discretionary criteria for an EIS requirement in South Australia, it is not possible to gain a proper understanding of the role of the EIS without an overview of the 34 completed EISs and aspects of the application of the EIS process in practice. For the purpose of this thesis the generic groupings of projects in Table 3.1 are used to structure the overview and discussion chapters relating to the completed EISs. The following overview of the 34 completed EISs refers mainly to the draft EIS, the Supplement (response), the Assessment Report and in some cases other relevant documents. No specific reference is made to separate guideline documents produced for some of the earlier EISs but incorporated into the later draft EIS documents. The variable nature of the guidelines and their role will be discussed in later chapters.

## MARINA PROJECT EISs

As shown in Table 3.1 the group of marina EIS projects is not only the largest group of EISs but contains six out of the seven rejected EIS projects in South Australia. Although the reasons for this are quite complex, it is in part related to the Government's policy on coastal marina development and the formation of the Marina Assessment Advisory Committee (MAAC) in 1987. For this reason it is appropriate to discuss the marina EISs under four subheadings. First, there are those coastal marina EISs which predate the formation of the MAAC in 1987. Second, it is important to outline the development of the Government's coastal marina strategy and related documents prepared by the MAAC between 1987 and 1989. Third, there are those coastal marina EIS projects which have had decisions influenced by the work of the MAAC. Fourth, there are a few non-coastal marinas which are not affected by the coastal marina policy and need to be treated separately.

### **Coastal Marina EISs predating the MAAC in 1987**

There are 2 coastal marina EISs which pre-date the influence of the Government's marina strategy, although both had strong Government involvement. These are at Port Lincoln and at Whyalla.

*Porter Bay Marina Stage 1*

The Porter Bay marina at Port Lincoln had State government involvement from the outset because of a commitment to assist the commercial fishing industry in the area. Although the Minister for Environment and Planning on 10 January 1983 required an EIS to be prepared for this project, a Government steering committee had already been set up in 1982 and the Government became involved in a tripartite agreement with the local council and private developers (Harvey and Swift 1990a).

The proposal was to construct a marina (of 200 recreational and 70 commercial berths) and associated facilities (international resort of 165 units, canal estate residential development of 200 allotments, commercial development sites, tourist and recreational facilities) at Porter Bay near Port Lincoln. Initial design work was conducted by the South Australian Department of Marine and Harbors and the draft EIS was prepared by the South Australian Department of Tourism. Thus the Government was heavily involved throughout the process.

The draft EIS (Porter Bay Development Company 1984a) was produced by the South Australian Department of Tourism and released for the (then) statutory minimum time period of two months from 9 July 1984, during which time, eight public submissions were received. From both the public and Government submissions it is clear that the draft EIS was an inadequate document in terms of both its presentation and coverage of the environmental issues. Submissions expressed concern about the loss of coastal conservation areas, inadequate data on marine biology, potential water quality and management problems for the marina, insufficient data on heritage impacts, insufficient data on construction, and poorly presented biological data.

In response to the inadequate draft EIS the Supplement (Porter Bay Development Company 1984b) was prepared by a private consultant, Paul Manning and Associates, rather than the Department of Tourism. The Supplement, which was released on 7 January 1985, provided additional data on management, heritage, socioeconomic impacts, and in particular terrestrial and marine biology. However, as noted in the Assessment Report (SADEP 1985) the collective information in the draft EIS and the Supplement was still insufficient for assessment purposes in terms of groundwater, marine biology, water flushing rates for the marina, coastal engineering, Aboriginal heritage, and project-related population and workforce projections. In addition to these deficiencies the Assessment

Report, completed on 4 March 1985, recommends a number of conditions of approval (SADEP 1985 pp56-58).

Notwithstanding some of the inadequacies with the documentation, the EIS was given official recognition on 26 March 1985 and as it was considered to be a Crown development, it was processed through Section 7 of the Planning Act. The Minister for Environment and Planning (MEP), after obtaining advice from the SAPC gave approval for the project to proceed on 7 April 1985. The State government contributed \$12M towards the project in fulfilment of political promises to provide support for the region, in particular the local fishing fleet. The basic construction was completed in 1987, although the recreational marina and the residential development has been slow in development, and the tourist components are virtually non existent.

#### *Whyalla Boat Harbour*

As with the Porter Eay marina, the Whyalla Boat Harbour (Whyalla marina) had Government involvement from the outset. It was initiated in 1985 through the Department of State Development in conjunction with the local council, in an attempt to obtain Commonwealth funding from the Steel Regions Assistance Program. This scheme had been set up to provide for funding initiatives primarily to enhance employment prospects in the Iron Triangle region of South Australia.

Feasibility studies were completed in July 1985 by Kinhill Stearns Pty Ltd and the grant application was submitted in September 1985. 'In principle' approvals for a \$2.0 million grant were well underway by the time a standard development application was submitted to the SAPC in 1986. The Minister for Environment requested in May 1986 that an EIS be prepared for the project. The need for environmental clearance at the Commonwealth level (because of Commonwealth funding) also meant that the requirements of the Commonwealth Environment Protection (Impact of Proposals) Act had to be fulfilled.

The proposal was to create a marina by dredging a basin to be enclosed by two breakwaters, of which, part of one was already in existence. The marina included an all-weather/all-tide boat ramp, car and trailer parking, a new beach on the northern side and space for marina related activities such as club buildings. The basin has a capacity for up to 150 berths although only 40 were planned in the short term.

The EIS (Whyalla District Council 1986) was prepared by Kinhill Stearns and exhibited from 22 December 1986 until 23 February 1987 (an extended period because of the Christmas break). Only 11 public submissions were received. These were concerned with local issues such as the provision of swimming facilities, effects of rock blasting and provision for club facilities. Government comments, however, were focused on coastal impacts and potential impact on items of Aboriginal heritage. Concern was expressed over the adequacy of breakwater design, and the potential for major future dredging expenses. The heritage issue required protection for an item within the reclaimed area and at a lower level.

The proponent's consultants (Kinhill Stearns) prepared a response which was released on 4 May 1987 (Whyalla District Council 1987). This did not resolve the design questions, the financial vulnerability of the local council for maintenance (particularly dredging), or the heritage issues which were all raised in the Government's Assessment Report (SADEP 1987h), completed on 12 June 1987. The EIS was officially recognised on 29 June 1987.

The two and a half month proponent response time to relatively few submissions has been noted by Harvey and Swift (1990a), who also query the need for a nine month draft EIS preparation time given the detailed feasibility studies already in existence. As noted by Harvey and Swift (1990a) the delays reduced the value of the fixed amount Commonwealth grant and made it difficult to obtain a decision from the SAPC by the end of the financial year. Consequently, after some political agitation from the local member of parliament, the project was approved on 23 July 1987 under Section 63 of the Planning Act. This was only the second time that Section 63 had been used and it essentially provided a non-appealable planning approval for the marina as a 'scheme' of the Minister for Environment, which it clearly was not.

### **Development of the Marina Strategy 1987-1989**

Six of the 10 coastal marina projects have been on the metropolitan coast where in 1987 there was significant public controversy surrounding a number of marina proposals. In response the Government formed an inter-departmental Marina Assessment Advisory Committee (MAAC) and gave it a brief to produce guidelines for the planning and development of coastal marinas, coordinate Government advice to prospective marina developers, and develop a Government strategy on coastal marina development.

The MAAC produced marina guidelines (MAAC 1988a), a metropolitan marina site suitability study (MAAC 1988b), and a marina demand study (MAAC 1988c), followed by an integrated marina strategy for the whole of the South Australian coast (MAAC 1989) which was released by the Minister for Environment and Planning in July 1989. The strategic planning and environmental issues underpinning this strategy have been discussed by Harvey and Swift (1990b) and the success of the strategy as a planning process has been discussed by Harvey (1992a).

The marina strategy is based on the projected demand for marina berths; the identification of strategic locations related to cruising circuits, existing facilities and safe harbours; and the application of the marina guidelines to specific locations (Harvey and Swift 1990b). The strategy identifies four preferred coastal locations for marina development. The first and most important is the metropolitan coast where four preferred sites were identified in the earlier study (MAAC 1988b) at Mutton Cove, Marino Rocks, Old Maslin Quarry and Wirrina. A fifth site at Glenelg, which was excluded from the earlier study, was added to the strategy by the Government which saw the opportunity to attract development at the same time as addressing some of the environmental problems at the site (Harvey 1992a).

Three other preferred coastal locations were identified in the strategy on the non-metropolitan coast. These were on the lower eastern Yorke Peninsula around the towns of Port Vincent, Stansbury and Edithburgh; the upper western Yorke Peninsula around the towns of Moonta, Wallaroo and Port Hughes; and on the north eastern coast of Kangaroo Island around the towns of Kingscote and American River (Harvey 1992a).

The marina strategy was released in 1989 as a Government initiative to give some guidance to prospective marina developers. However, it was not incorporated within Planning legislation, specifically the Development Plan which provides development control guidelines pursuant to the Planning Act, 1982. The reason for this was that each of the identified marina locations required the development of marina concepts and feasibility studies and further environmental evaluation of the specific site. The Government was not prepared to commit resources for these investigations which it considered were the responsibility of the private developer.

In addition, the marina strategy recognised that only a limited number of marinas was likely to be viable. Therefore there was not a strong argument for creating a specific

marina zone for each of the two or three marina sites in each coastal section. The number of marinas was left to the market place provided that they were environmentally suitable and economically viable. It was assumed that most proposals would be subject to EIS requirements.

Although the marina strategy does not have a legislative status it is intended to incorporate the key issues from the marina guidelines into the Development Plan. A number of these have recently been written into a draft coastal supplementary development plan which will be used to amend the Development Plan. Notwithstanding the marina strategy's apparent lack of legislative teeth as a planning document, it appears to have acquired its own teeth because of a general acceptance of the strategy by developers, conservationists, the general public and politicians on both sides (Harvey 1992a).

### **Coastal marina EIS with decisions influenced by the work of the MAAC**

#### **a) Metropolitan Coast marinas**

Five of the marina proposals on the metropolitan coast represent the bulk of the seven EIS projects which have been rejected in South Australia. Two of these were rejected on their own merits/disadvantages; Jubilee Point marina and Sellicks Beach marina. Both attracted significant public opposition and attracted large numbers of public submissions (109 and 546 respectively). The other three 'rejected' marina proposals were all at Glenelg and were part of a competitive selection process between four proposals at the same site. Three out of the four were 'not selected' rather than rejected on their individual merits/disadvantages.

#### *Jubilee Point marina and residential development project*

The Jubilee Point private marina proposal at Glenelg, and its EIS caused major problems both for the EIS process and also started an anti-marina backlash which affected other marina projects. The proposal (which was substantially modified through the EIS process) by Jubilee Point Pty Ltd was to construct a 210 berth private marina, a residential village of 238 housing units on land reclaimed from the sea, another 64 housing units on reclaimed land within the Patawalonga Creek, a tourist hotel of 250 rooms across part of South Australia's most popular beach, plus other facilities such as a sailing club, a relocated boat ramp, car parking, a pier and associated commercial and tourist activities.

One problem with the Jubilee Point project was that Cabinet, in September 1984, agreed to appoint a Government steering committee to assess and assist the development of the project and to work towards an indenture agreement. At the same time the developers were given a period of exclusivity for development rights at the site. An EIS was required on 31 October 1984, but problems soon arose between various Government departments because the EIS process was initially treated as a formality or rubber stamp and there was a separation of the steering committee process from the EIS process. Although there were attempts to resolve this problem, the developers and those involved in the steering committee process misgauged the environmental opposition that followed.

The draft EIS (Jubilee Point Pty Ltd 1986a) was prepared by Kinhill Stearns and placed on public exhibition from 20 January 1986 until 17 March 1986. Numerous concerns were raised by the 109 public submissions, in addition to extensive Government comments and concerns. A major concern was with coastal processes and sand management since the project essentially bifurcated the metropolitan beaches and the existing sand management scheme. There were also major concerns about financial implications for Government, visual and amenity effects, alienation of public land and beach, potential impact on the marine environment and archaeology, problems with water quality, issues of traffic and parking, drainage and flooding, social impact, proximity to the airport, and effects of construction and other noise impacts. In general the draft EIS was considered inadequate from a number of sources.

The proponent attempted to tackle the major problem of sand management, with extensive engineering calculations and a novel 'Crawl Cat' approach to sand dredging and pumping. Notwithstanding the engineering studies, the Coast Protection Board had reservations with the sand volume calculations and the costs.

In response the proponent produced a greatly modified scheme in its Supplement (Jubilee Point Pty Ltd 1986b) which was prepared by Kinhill Stearns and released on 26 September 1986. The extent of the modifications prompted calls for public comment on the revised scheme. The Minister for Environment and Planning took the unprecedented step of requesting public comment on the Supplement and an additional 103 public submissions were received. This action has not been repeated since in South Australia. It is notable that the Supplement was more detailed than the draft EIS. Extensive



supplementary material to the main text was also provided, particularly for sand management.

The assessment of the Jubilee Point project (SADEP 1987a) is one of the more complex of the Assessment Reports prepared under the Planning Act, taking over two months to complete (9 December 1986). However, given the sensitive nature of the project the proponents were given an opportunity to comment on the Assessment Report before the Minister received it. The proponent's vehement opposition to parts of the Assessment Report raised questions about the role of the Assessment Report since it has no status in the legislation, apart from being incorporated into the EIS as the 'Minister's amendments'. The opportunity for testing these questions in court never arose because the report was modified by some senior Government officers in consultation with the proponents before the EIS was given official recognition three months later on 2 March 1987.

By this time, the environmental backlash and local community opposition to the project was having an effect on local politics. The Glenelg Council, originally in favour of the project, withdrew its support in June 1987. The council realised that apart from local opposition, the sand management costs could be as high as \$400,000 per annum compared to the anticipated extra rate revenue of \$500,000 from the project. The withdrawn council support left the State government in an invidious position.

In order for the State government to break the deadlock and save face, a separate Jubilee Point Review Committee was set up in September 1987, headed by a local Queen's Counsellor. The committee's final report in November 1987 after a considerable re-working of information already contained in the Assessment Report, did not make any substantial alterations to the findings of the Assessment Report, but attempted to differentiate between some 'facts' and 'opinions' in the report.

With an 'independent' report described as 'thorough and factual' the Premier was able to announce on 22 December 1987 that the project had been rejected. No formal planning application was ever submitted under the Planning Act but it was always intended to use an indenture agreement essentially to remove the project from the planning system. Although Cabinet decided not to proceed further with the project, the State government together with the local council have subsequently called for registrations of interest for an environmentally acceptable alternative development proposal at the same location (see below). The MAAC had prepared draft marina guidelines by December 1987 but the

government did not release them until the following year (MAAC 1988a) when two further marina rejections caused criticism of the Government as anti-development.

*Sellicks Beach marina and residential development project*

The Sellicks Beach marina proposal was originally submitted, in June 1987 as a 382D scheme under the old Local Government Act. This was intended to enable the Willunga District Council (in this case the proponent) to put together a land package for the proposed scheme. However, an EIS was required on 12 April 1988, the same month that the Government released its marina guidelines (MAAC 1988a).

The preparation of the Sellicks Beach EIS followed the rejection of three other metropolitan marinas at a time when the anti-marina feelings were high. This was not helped by local council negotiations to create a land package before the scheme was fully publicised. Public suspicions were not allayed by 12 public meetings held by the council to discuss the scheme. The draft EIS (Willunga District Council 1988) was prepared by Bone and Tonkin Pty Ltd and released from 24 October 1988 until 19 December 1988, during which time it received a record 546 public submissions.

The proposal was to construct a 211 berth public marina with direct access to the sea via a protected channel, a residential subdivision of 1,471 residential allotments (including 253 canal front allotments), nearly 3km of waterway, relocation of a future sewage treatment plant, a 55 ha golf course, a 29ha wetland and a tourist centre. The public submissions were most concerned with the visual impact of the project, the potential impact on littoral drift, the effect of cutting the beach and inconsistencies with two of the MAAC reports (MAAC 1988a, 1988b). In addition the Government comments stressed the potential impact on Aboriginal heritage and noted that the proposed development was premature in terms of the Government's sequence for development in the area. This had cost implications for the Government.

The proponent's response (Willunga District Council 1989), also prepared by Bone and Tonkin, was released on 6 March 1989 and criticised by the Government's Assessment Report (SADEP 1989c) for its cursory treatment of some, and non-response to many, of the 546 public submissions. The proposal was also seriously at variance with the Development Plan which, as noted by Harvey and Swift (1990a p46), constrained the SAPC in making a decision. For this reason a Section 50 declaration was made over the

area in May 1989, making the Governor the decision maker with no third-party rights of appeal. This allowed the proposal to be judged on its own merits.

The Government was left with a major issue of Aboriginal heritage at the site, with the potential for the first test case of the Aboriginal Heritage Act, 1988. There had also been a change in environment ministers during the Sellicks Beach EIS process. The new Minister for the Environment, unlike the old one did not have a constituency which included Sellicks Beach. The record number of submissions, together with a (then) recent political swing to Green Independents in Tasmania probably had an influence on the new Minister for Environment. The Assessment Report was completed on 7 April 1990 and the EIS was officially recognised on 11 May 1990. The Governor rejected the proposal on 29 June 1989 and, soon after, Labor Party posters were distributed depicting that the party had 'saved' Sellicks Beach because it valued the environment. The local council, which had lost considerable money on the proposal, repeatedly and unsuccessfully attempted to obtain reasons for the rejection of the proposal.

*Glenelg marinas and redevelopment of the Glenelg Foreshore*

- *Glenelg Harbour project*
- *Glenelg/West Beach project*
- *Glenelg Ferry project*
- *Holdfast Quays project*

Having rejected the earlier Jubilee Point marina proposal at Glenelg, the State government and the local council were still faced with the existing environmental problems at the site. There was a need to redevelop the foreshore area, a need to clean up the Patawalonga Creek and improve the water quality, and a need for ongoing dredging of the entrance channel which was constantly blocked by a sand-bar. Although the Government had excluded Glenelg from the MAAC site suitability study (MAAC 1988b), it now turned its attention to offering development rights to a suitable private developer in return for amelioration of the environmental problems at the site.

A joint State government and local council prospectus was issued by a steering committee in February 1990 in order to attract a suitable developer. Four proposals were selected and each was required (19 June 1990) to prepare an EIS. However, since the Government had initiated the proposals the Minister undertook to have the four EISs prepared (by PPK Planning Consultants Pty Ltd) on behalf of the proponents under the

provision of Section 49 (1a) of the Planning Act. This was the first time this sub-Section of the legislation had been used. The four EISs were prepared as a single document with separate sections for each scheme.

The draft EISs (Minister for Environment and Planning 1990) were placed on public exhibition from 5 October 1990 until 24 December 1990. Prior to the exhibition period there were also a number of public meetings which effectively extended the period of public involvement. The EISs were lacking in detail for individual schemes since none of the developers was prepared to spend time and money finalising a scheme without some guarantees of planning approval.

The 54 public submissions represented half the number received on the Jubilee Point proposal at the same site. Issues raised were similar to those raised for the Jubilee Point project such as water quality, stormwater management, sand management, traffic and parking, visual effects, loss of public land, intrusion into the sea, noise from airport, and costs to the public sector. There was also a desire for more detail on the four individual projects and some submissions suggested composite or alternative proposals. Government comments were focused on the feasibility of the various sand management schemes, water quality and flushing schemes, and the trade offs needed for the facilities provided.

Each of the four schemes provided a marina, residential development, improved water quality and sand management. However, they varied considerably in their layout in terms of the area and location of reclaimed land, provision of commercial facilities, parking, extent and density of residential development.

The Glenelg Harbour scheme was perhaps the least innovative of the four schemes. The main feature of the scheme was a 250 berth marina and public boat ramp with associated parking on reclaimed land. It was proposed to have 150 residential units (two and four storey) on reclaimed land around the north Glenelg peninsula. The Patawalonga was to be returned to its former tidal flushing regime to improve water quality.

The Glenelg/West Beach proposal featured a 390 berth open sea access marina with space for a ferry terminal. Landfill and commercial development was proposed for the mouth of the Patawalonga which was to be filled in, and all stormwater was to be diverted north. A major difference between this and the other three proposals was that it intended to use

West Beach land for its 780 allotment residential development and relocate the major sewage treatment works at Glenelg. Since the Government indicated that the West Beach land was not available the proponent's response was that the Government should provide a \$15m contribution to make the scheme viable.

The Glenelg Ferry proposal in the draft EIS underwent major changes in the Supplement. The original proposal focused on a ferry terminal, boat ramp and car park. The revised plan in the Supplement contained no boat ramp, a 222 berth marina, 150 residential units (up to 10 storeys high) around the north Glenelg peninsula, 60 serviced units south of the Patawalonga mouth, commercial development and an underground car park south of the mouth. The less frequent floods were to be diverted north of Glenelg but most floodwater was to be controlled through a lock system.

The fourth scheme, Holdfast Quays, was different to the other three in that it proposed residential development (229 units of two to five storey) on reclaimed peninsulas extending into the Patawalonga. It also proposed a locked 145 berth marina, a boat ramp south of the Patawalonga mouth and space for a ferry terminal. Water quality was to be improved by a flushing system of pipes.

In the Supplement (Minister for Environment and Planning 1991), the four proponents (Glenelg Harbour, Glenelg/West Beach, Glenelg Ferry and Holdfast Quays) did not all provide adequate cross-referenced summaries of public submissions. The Minister decided to use a single consultant (PPK Planning Consultants) to attempt to synthesise the responses in one combined Supplement. This was released on 2 April 1991.

Notwithstanding the information provided in the Supplement, difficulties arose with the Government assessment (SADEP 1991a) because of subsequent changes. In particular the Steering Committee was accused of not negotiating equally with all four proponents. Consequently, there were continual changes to one proposal (Glenelg Ferry) up until 16 May 1991 (SADEP 1991a, p D4) which delayed the completion of the Assessment Report until 11 July 1991.

The EISs were given official recognition on 18 July 1991 and the schemes were submitted to Cabinet for a decision on which scheme should proceed further. On 19 September 1991 the Glenelg Ferry scheme was given a six month exclusivity period to establish the financial feasibility of the scheme. This period was extended to the end of February 1993

to allow the proponents to obtain expressions of interest from investors. After failing to meet this deadline the future of the project is in doubt.

## **b) Non-Metropolitan Coast marinas**

### *Tumby Bay marina*

The District Council of Tumby Bay proposed a marina development at Tumby Bay in order to encourage growth of the town. An EIS was required on 4 March 1987 and, although this pre-dated the work of the MAAC, significant delays meant that the marina strategy (MAAC 1989) became a factor in the EIS process. Tumby Bay was not a preferred marina site but the MAAC recognised the potential to upgrade moorings at this location.

It was not until over three years later that an EIS (Tumby Bay District Council 1990) was prepared by Lange, Dames and Campbell Pty Ltd and released (17 September 1990 until 5 November 1990). Part of the reason for this delay was the reworking of the project design in order to produce an economically viable scheme. Only four public submissions were received.

The main elements of the proposal were to dredge an area within First Creek estuary and construct a 40 berth marina, a boat chandlery and marina office, and 85 water-frontage residential allotments. Public submissions raised questions about the limited depth of the entrance channel, the staging of the marina development and the costs and responsibilities for maintenance. Government comments raised questions about the economic viability of the project, particularly in terms of residential demand and the need to increase water supply to the township. There was also a concern that development in the area was starting to encroach on valuable mangrove/samphire ecosystems.

The council after further delays prepared a short Supplement without the help of consultants (Tumby Bay District Council 1991) which was released 8 July 1991. The Assessment Report (released in September 1991) focused on the social impact of the potential for a half finished project which could impose a rate burden on Tumby Bay residents. Most of the recommendations contained in the report relate to management and maintenance issues together with a proposal to create a nearby conservation zone to protect the mangrove/samphire ecosystem (SADEP 1991c).

Although the EIS was given official recognition on 17 September 1991, no planning application had been made up to the end of April 1993.

#### *Wallaroo marina*

The Wallaroo marina proposal is perhaps the marina proposal that has been influenced most by the work of the MAAC, which had identified the site as a Government preferred location for a non-metropolitan marina (MAAC 1989). Adelford Pty Ltd, a private development company, was advised of an EIS requirement on 4 July 1990. The proponent had a draft EIS prepared by Eco Management Consultants Pty Ltd (Adelford Pty Ltd 1990). This was publicly released from 13 December 1990 until 25 January 1991, during which time only seven public submissions were received.

The main elements of the proposal were for a 150 berth marina with a protected channel entrance, 389 residential allotments (including 219 waterfront allotments), 2.2 km of waterways, a boat ramp, a boat chandlery and a motel. The main public concern was the separation of North Beach from the main Wallaroo township together with some questions about water quality, and safety aspects of the swimming beach. Government comments raised questions about coastal stability, social impact and management and maintenance.

A response (prepared by Eco Management Consultants) to public and government comments was released on 25 February 1991 (Adelford Pty Ltd 1991). The Assessment Report (completed on 2 April 1991) concluded that in general the response was satisfactory provided a legal agreement was drawn up with the local council to provide for ongoing maintenance (SADEP 1991b). The EIS was officially recognised on 9 April 1991 and after minor delays in getting documents to the SAPC the marina was approved on 12 August 1991. As noted by Harvey (1992a) this marina has not yet been constructed and may be one of a number of proposals which have been affected by the economic recession.

#### *Lincoln Cove Stage II marina*

The Lincoln Cove Stage II proposal is an extension of the existing Porter Bay proposal (renamed Lincoln Cove). Stage II unlike the earlier development, is a private proposal by

the Champagne Bay Development Co Pty Ltd. The Minister required an EIS on 11 September 1990. The proponent had a draft EIS prepared KMH Neighbour Lapsys Pty Ltd. This was exhibited from 4 November 1991 until 16 December 1991 (Champagne Bay 1991), during which time eight public submissions were received.

The main elements of the proposed development are a 70 berth marina, other marinas for approximately 120 boats, an 18 hole golf course, a country club with 50-70 associated condominiums, 480-550 residential allotments, and a tourist accommodation complex. Public comments were mostly concerned with water quality, golf course management, effluent, refuse dump (existing) management, Aboriginal heritage, vegetation clearance and employment impacts. Government concerns focused on water quality, Aboriginal heritage (fish traps), building levels in relation to sea level rise, biological impact, pollution and waste management and social impacts.

The proponent's consultants (KMH Neighbour Lapsys) prepared a Supplement detailing significant alterations to the development proposal (Champagne Bay Pty Ltd 1992). This was publicly released on 26 October 1992. One problem with the assessment of the proposal was that the staging of the development is market driven and although the various stages are outlined in the draft EIS, and modified in the Supplement (particularly for the lakes/locked lakes option) the developer attempted to preserve a flexible approach to staging elements. Consequently the Assessment Report (completed 8 January 1993), prepared by the Office of Planning and Urban Development (OPUD), contains 41 recommendations, many of which are consequent on staging sequences (OPUD 1993). Recommendations also relate to water quality monitoring (particularly any leachates), the need for investigation of previous fluoride deposits at the site, provision of public services and utilities, safeguards for heritage items, and the adequate provision of roads for each stage.

In addition it became evident early in the EIS process that there would be a need to obtain a permit from the Native Vegetation Authority (NVA) in order to clear native vegetation on the site pursuant to the Native Vegetation Act of 1985. If the Governor for example was the planning authority, this would give the NVA a right of veto to the planning decision. This legislative problem, largely as a result of the Lincoln Cove proposal has since been covered by an amendment (March 1991) to the Regulations of the Act. The amendment exempts EIS projects from obtaining a permit to clear native vegetation provided comment has been sought from the NVA, and regard to the NVA comment is given in the



assessment. In the case of Lincoln Cove, the NVA was opposed to the development but the assessment noted the loss of this vegetation would be a consequence if planning approval was granted. The planning authority is likely to be the Governor under Section 51 of the Planning Act, but a decision had not been made as of the end of April 1993.

### **Non-coastal marina EISs - not affected by the work of the MAAC**

#### *Jane Eliza marina*

The first of the non-coastal marinas requiring an EIS (1 March 1986) was the Jane Eliza marina and residential development proposed by private developers, Hague Showell and Paddle Cat Pty Ltd. The proponent's consultants (Bone and Tonkin Pty Ltd) prepared a draft EIS which was released for public exhibition between 24 October 1986 and 8 December 1986 (Hague Showell and Paddle Cat Pty Ltd 1986), during which time there were 26 public submissions.

The proposal was to excavate a marina and waterways in the flood plain of the river Murray at Renmark. The marina was to have 175 houseboat berths and 100 small boat berths with associated facilities such as refuelling and effluent disposal, hardstand and maintenance areas, administration and club buildings, tourist and commercial facilities. In addition it was proposed to create 388 residential allotments and 45 medium density units, amenity woodlots, and public reserves. The main concerns expressed in the public submissions were road access, water quality within the marina and waterways, potential social impact, and the design and layout. Government comments related mainly to potential hydrogeological impact (saline groundwater flowing to the River Murray), management and maintenance, impacts of boats along the river, and questions about the sustainability of demand for the project.

The proponents consultants (Bone and Tonkin) prepared a response (Hague Showell and Paddle Cat Pty Ltd 1987) which was released on 10 March 1987. The Government's assessment, completed on 29 July 1987, identified a number of adverse impacts; environmental impact of increased boating in the upper reaches of the River Murray, construction impacts, increased pressure on existing community facilities and services in Renmark, and inadequate water quality in the marina and waterways for recreational purposes (SADEP 1987g). The report also expressed uncertainties about some

infrastructure provisions, financial implications for local and State governments, and concerns about potential hydrological impact.

The EIS was officially recognised on 10 August 1987 and was the first EIS project under the Planning Act to go before the SAPC for a planning decision. The project was given planning approval on 8 July 1988, after the preparation of a Supplementary Development Plan (making the project compatible with the plan). A number of conditions were put on the planning approval relating mainly to financial guarantees, management, maintenance and monitoring. Although the project was approved it was only partly constructed before the developers went bankrupt in 1991, perhaps vindicating the caution on the part of the SAPC with regard to financial matters.

### *Wellington marina*

The second non-coastal marina project with an EIS requirement (17 April 1988) was for a private development proposal by Wellington Cove Pty Ltd at Wellington, on the River Murray. A draft EIS was prepared by the proponent and publicly exhibited from 7 November until 19 December 1988 (Wellington Cove Pty Ltd 1988). A total of 19 public submissions were received during this time.

The main elements of the proposal were to develop two marinas providing 316 berths, 360 residential allotments (staged over five years), an 18 hole golf course and associated country club, sporting facilities and health club. It was also proposed to develop a 100 berth caravan park, 4.5 ha of commercial land for a restaurant, two motels and shopping facilities, a water supply and sewerage system plus a recreational lake and wetland reserves. Public submissions were concerned mainly with the social impact upon the town of Wellington, particularly in relation to a semi-completed (at that time) marina and residential development on the other side of the river. There was also concern expressed about flood potential and potential environmental impact to nearby wetlands from the development.

Major concerns raised in Government comments on the draft EIS related to water quality within the marina and waterways, adequacy of reclamation in regard to flood potential, biological impact (particularly wetland habitats), social impact (particularly an oversupply of residential allotments), infrastructure, and financial and management impacts. The proponent's response to the public and Government comments took a year to complete

and was released on 27 November 1989 (Wellington Cove Pty Ltd 1989). The Assessment Report, which was also delayed because of other assessment work within the Assessment Branch, was completed on 9 April 1990, and the EIS was officially recognised on 8 June 1990. The Assessment Report (SADEP 1990b) although critical of the potential social impact of the proposal at Wellington, and the need for a staged development, was not totally negative. The report contained 30 recommendations directed at amelioration of impacts, staging, and financial safeguards regarding management and maintenance.

There was significant local opposition to the proposal and a lack of local government support. The SAPC concluded, on 8 July 1991, that the project was inconsistent with the Development Plan, the very reason that the SAPC is often not a decision making authority in such situations. This proposal is the only EIS project rejected by the SAPC.

#### *Hindmarsh Island marina*

The third non-coastal marina proposal was at the seaward end of the River Murray, adjacent to a barrage which prevents seawater incursions into the freshwater of the river. The private development proposal (by Binalong Pty Ltd) became quite complex because it was actually an extension of an existing marina development, for which there was some confusion over previous approvals. Although the marina extensions in themselves were not considered a major impact the associated residential development and proposed bridge to Hindmarsh Island resulted in a requirement for an EIS (24/10/89). The proponent's consultants (PPK Consultants) had already commenced impact studies so that the draft EIS was ready for public release by 6 November 1989, the shortest proponent preparation time for a draft EIS (Binalong Pty Ltd 1989). The document was on display until 18 December 1989 during which time there were 73 public submissions.

The main elements of the proposal were to construct a bridge to Hindmarsh Island, a 1,150 berth marina (about half of which had already been approved and one quarter constructed), 500 drystand berths (including 200 already approved), 859 residential allotments (including 324 waterfront allotments, associated waterways and lagoons, a tourist centre, sewage treatment plant, and a water filtration plant.

The large number of public submissions (73) reflected local concerns about the potential of the bridge to impact on traffic in Goolwa, the aesthetic impact of the bridge, and

financing of the bridge. In addition there was concern about the size of the proposed residential development and the potential for the bridge and the residential development to change the rural character of the island. Government comments related to the demand for allotments, the need for the bridge, biological impact on conservation areas, social impact on nearby Goolwa, supply of services such as water and sewerage, visual impact, and impact on both European and Aboriginal heritage areas.

The proponent's consultants, PPK Consultants, prepared a response (released on 5 February 1990) to most of the above issues (Binalong Pty Ltd 1990) and the Government completed an Assessment Report on 16 March 1990. The principal concern of the Assessment Report related to the bridge alignments, financial arrangements, visual impact, and impact of improved access to the island (SADEP 1990a). However, prior to the compilation of the Assessment Report, Cabinet had approved in principle the concept of a bridge and the contribution of funds toward it. There were also concerns about the long-term viability of private water and sewerage schemes, and more importantly the staging of the whole project.

The planning decision for this project was made by the Governor under Section 51 of the Planning Act following the Section 50 declaration over the development area (including the bridge and its approaches). The project was approved by the Governor on 12 April 1990. Conditions were imposed relating to staging of the development, particularly before bridge construction, and a requirement for reticulated water supply was also imposed. Another safeguard was the vesting of management/maintenance responsibilities with the local council. The Goolwa marina and Hindmarsh bridge project was processed in a record time for the EIS process and subsequent planning approvals. However, following Government approval for the bridge, a parliamentary inquiry was set up in May 1993 to investigate the process and rationale for Government financial support for the bridge.

## INDUSTRIAL DEVELOPMENT PROJECT EISs

### *Southern Cross refinery*

The southern Cross Refinery project was a private development scheme by Southern Cross Refiners Pty Ltd to provide a fuel supply for petrol retailers which was not dependent on the major oil companies. The proposal was to construct a small refinery at

Port Bonython, near Whyalla in order to take advantage of processed condensate from the nearby SANTOS facility. The products, mainly petrol, kerosene, diesel and industrial fuel oil were then to be supplied to retailers in the region. An EIS was required on 1 December 1986 and a draft EIS prepared by consultants (Maunsell and Partners and Australian Groundwater Consultants), was released for public comment from 4 April 1987 to 15 May 1987 (Southern Cross Refiners Pty Ltd 1987). Only four public submissions were received. The main issues addressed were access to Point Lowly for recreation, contamination of water channels, hazard zones, ecology of Spencer Gulf, and supply of feedstock. Government comments were directed mainly to plant design approvals, hazard zones, emergency conditions, condensate supply, and protection of the State's gas supply. The response (Southern Cross Refiners Pty Ltd 1987b), prepared by the proponent's consultants, addressed these issues and was released on 15 June 1987.

In the Government's Assessment Report (completed 12 August 1987) it was noted that the proposal had already been investigated by the Industries Development Committee which recommended a \$20M loan guarantee from the South Australian government (SADEP 1987b). However, none of the conditions attached to the loan guarantee were available to the Department of Environment and Planning for the Assessment Report. Consequently the assessment recommends a number of conditions assuming that all economic impacts related to the loan guarantee had been considered. Conditions related mainly to environmental and industrial safeguards, hazard analysis requirements, and the need for further work if the supply of condensate was not available from SANTOS. The EIS was officially recognised on 28 August 1987 and the project was approved by the Governor under Section 51 of the Planning Act on 1 October 1987. Problems have since arisen because no sunset clause was included in the approval and the proponent has not been able to secure the finance for the project.

#### *Rare Earths proposal*

SX Holdings Pty Ltd, a private company, proposed to extract rare earths from the site of an old uranium extraction plant at Port Pirie. The plant construction had already been approved for Stages 1 and 2, construction for part of Stage 1 had been completed, and a mining lease granted. However, Stage 1 was not operational at the time that approval was sought for Stage 3, a monazite cracking plant. It was for Stage 3 that an EIS was required on 14 September 1988.

A draft EIS (SX Holdings Pty Ltd 1990) was prepared by the proponent's consultants, Kinhill Engineers Pty Ltd, and exhibited from 27 August 1990 to 22 October 1990. During this time there were 56 public submissions and significant controversy was generated through the media. The main public concerns were over the storage of the monazite residue, justification for the site, transport of the ore, residue and other toxic materials, and radiation protection. Similar matters were raised in the Government comments but the major focus was on the justification of the site.

After some delay the Government, keen to assist industry, took the unprecedented step of providing funding for Kinhill Engineers to prepare the response (SX Holdings Pty Ltd 1991) on behalf of the proponent. The response was released on 1 July 1991. The Government's Assessment Report (completed on 8 August 1991) concluded that the critical issue for the project was the site selection, which depended heavily on benefits associated with the decontamination of the existing site and the reprocessing of the tailings (SADEP 1991d). The report considered that the transport of materials was not a significant problem. The assessment noted that major commercial agreements had not been completed and it recommended that Stage 3 should not proceed until an agreement had been reached on disposal of monazite residue, and a legally binding agreement to proceed with stage 1. The EIS was officially recognised on 26 August 1991 and the project was given the Governor's approval on 4 November 1991 under Section 51 of the Planning Act. However, the project had not commenced as of the end of April 1993.

#### *Apcel pulp and paper mill*

Apcel Pty Ltd, a private company which owns a pulp and paper mill at Snuggery in the southeast of South Australia, has been operating for some time under the Pulp and Paper Mills Agreement Act, 1958 and the Pulp and paper Mill (Hundreds of Mayurra and Hindmarsh) Act, 1964. The company in 1989 proposed to redevelop its operations by constructing a new Pinus pulp mill and chemical recovery plant adjacent to the existing site, modifying the existing chemical pulp mill to pulp Eucalyptus and installing a secondary treatment to treat the total liquid effluent discharge. An important element of the new treatment process was to replace chlorine bleaching completely, thus eliminating organochlorines.

Under the indenture agreements the State government has the responsibility for effluent disposal and its impact on Lake Bonney. However, it was still considered necessary to

require an EIS (23 June 1989) for the redevelopment proposal. A draft EIS (Apcel Pty Ltd 1990a) was prepared by Apcel's consultants, Kinhill Engineers, and released from 22 June 1990 until 6 August 1990, during which time there were 25 public submissions. These raised concerns about the installation of a secondary plant, they queried the status of the previous indentures, and they expressed concern about the toxicity of effluents, odour and corrosion problems and noise impact from the plant. Government comments focused on the nature of the effluent and monitoring programmes, particularly impacting on Lake Bonney. Questions were also raised about safety aspects, noise levels, groundwater usage, and electricity supply. A response (Apcel Pty Ltd 1990b) to these matters was prepared by the proponents consultants and released on 6 September 1990.

The Government's Assessment Report (completed 29 September 1990) noted that Apcel had been operating in the area since 1958 under an indenture agreement allowing contaminated effluent to be discharged into Lake Bonney and ultimately into the marine environment. For that reason the Assessment Report (SADEP 1990c) concluded that the overall redevelopment offers real environmental benefits. In addition, there were significant economic benefits in terms of balance of payments and employment. The main recommendations related to monitoring requirements and waste disposal. The EIS was officially recognised on 29 October 1990, the project was approved by the Governor on 7 November 1990 under Section 51 of the Planning Act, and was subsequently completed.

#### *Tioxide Project, Whyalla*

Tioxide Australia Pty Ltd, a private company, proposed to construct and operate a titanium dioxide manufacturing plant at Whyalla, using new chloride process technology. An EIS was required for this proposal on 5 April 1991 and a draft EIS (Tioxide Pty Ltd 1991) was prepared by consultants, Dames and Moore Pty Ltd, and exhibited from 21 October 1991 until 13 December 1991. The main concerns expressed in the eight public submissions received were vegetation clearance, impact on the Tregalana pastoral lease, Betatene Pty Ltd, and the Cultana Army Training areas, risk analysis, traffic and transport, and waste management. Government comments related to effluent handling proposals, risk analysis, social and economic impacts and biological impact. The company's consultants not only produced a response to these matters on 30 March 1992 but also conducted extensive public consultation and provided information bulletins. Included in the response (Tioxide Pty Ltd 1992) was a draft management plan for the project.

The Government's Assessment Report (completed 10 April 1992) concludes that all environmental issues raised by the proposal are considered to be manageable given the management plan and appropriate legislation and codes of practice. The final recommendation in the Assessment Report (SADEP 1992) is extremely brief, suggesting that any approval should be subject to submission of final designs and a management plan. The EIS was officially recognised on 16 April 1992 and the project approved by the Governor, under Section 51 of the Planning Act, on 21 April 1992. The project had not commenced as of the end of April 1993.

## TOURIST DEVELOPMENT PROJECT EISs

### *'Old Port Victor' Greater Granite Island development*

The District Council of Victor Harbor recognising a need to revitalise and improve facilities for recreation and tourism on Granite Island, called for registrations of interest, from private developers, for development rights to the north shore of Granite Island. In May 1987 the council selected a proposal from the Greater Granite Island Development Syndicate, which was later (27 July 1987) required to produce an EIS for the proposal.

The proposal included an enclosed pier, containing an amusement arcade and swimming area, to be constructed on the existing causeway, and widening of the causeway. On Granite Island itself it was proposed to construct a ships chandler, 40 swing moorings offshore, a wintergarden, public toilets, a kiosk, theatrette, museum and Mawson's Hut, penguin and seal pool, lighthouse/restaurant, and relocated chairlift.

A draft EIS (Greater Granite Island Development Syndicate 1988) was prepared by the proponents and exhibited from 12 March 1988 until 26 April 1988, during which time there were 27 public submissions. The submissions were mainly concerned about the impact on penguins but there was also concern about heritage items, visual impact, social impact, management of the island, impact on geological and coastal features. Government comments focused on heritage, management, the penguins, visual impact, and social impact. A response (Greater Granite Island Development Syndicate 1989) from the proponents, released on 18 March 1989, provided very little additional information on environmental impacts but a number of modifications were made to the project.



Modifications to the original concept included deleting the Mawson Hut museum, the seal and penguin pool, the harbour master's cottage and a protected swimming beach. A number of other modifications were made plus the addition of a penguin interpretive centre, steps up a cliff, and marine mammal sea-pen facilities.

An Assessment Report, completed 12 October 1989, detailed a number of concerns with the project such as the changed nature of the island, the visual prominence of the Lighthouse/restaurant and Victoria pier, the potential impact on heritage items, and additional disturbance to the penguin colony (SADEP 1989b). Three pages of recommendations indicate the level of concern, with many matters such as the penguins, heritage, and geology requiring further work and negotiation with relevant bodies. In addition the whole question of management of the island was raised, particularly with reference to lease/fee rates for the development. The EIS was officially recognised on 23 October 1989 and the project approved by the SAPC on 12 February 1990. This was only the second time that the SAPC had made a planning decision on an EIS project under the Planning Act. Financial problems have delayed the project, which has not proceeded despite extensions to the planning approval.

#### *Mount Lofty Development Project*

The Mount Lofty development project had State government involvement from the start. St Michael's Seminary, which had been burnt in the 1983 Ash Wednesday bushfires, was purchased by the State government in 1985 for tourism purposes. A prospectus was issued in December 1985, inviting tenders for the development of a tourism complex on the site. Although none of the tenders met the criteria in the prospectus the Government entered into a 12 month exclusive negotiation period with Touche Ross Services Pty Ltd. One of the conditions was the successful completion of an EIS, although this was officially required on 26 June 1986 once the project had been outlined.

The proposal was to construct a tourism facility and communications tower on the St Michael's site comprising; a four storey building in a pyramid shape containing a 640 person tavern, 170 room hotel, a cable car station, a science and technology centre, and a communications tower incorporating a revolving restaurant. In addition a cable car system was proposed, linking the summit complex with Cleland conservation park and the Old Bullock Track at Eagle on the Hill.

Touche Ross prepared a draft EIS (Mount Lofty Development Company Pty Ltd 1988a) which was released for public comment between 22 February and 18 April 1988. A strong public response of 83 submissions focused on the visual impact of the cable car, inadequacies of the draft EIS, impact of native vegetation clearance, the nature and scale of the summit complex, bushfire hazard, impact on the conservation park. The main Government concern was with the viability of the scheme, implications for Government resources, the feasibility of the communications tower, native vegetation impacts, impact on the conservation park, heritage issues, and traffic management.

A response (Mount Lofty Development Company Pty Ltd 1988b) to these issues was released on 21 November 1988, and an assessment completed on 26 July 1989. The Assessment Report contained appendices relating to the Development Plan for the area, in addition to details on flora and fauna, in particular details of the potential impact of the fungus *Phytophthora cinnamoni*. (SADEP 1989a). In conclusion the report casts doubt on the need for the extent of development proposed at the summit, both the complex and the size of the tower. The report also expresses concern about the impact on native vegetation and potential bushfire dangers, particularly for the cable car. The report makes it clear that there are a number of unresolved issues relating to infrastructure and overall viability of the project. Recommendations in the report leave many issues to be dealt with in a proposed management plan. The EIS was officially recognised on 28 August 1989 on the same day that Cabinet decided not to proceed with the project.

It is interesting to note that the Government has continued to negotiate with the proponent to produce a revised scheme without the cable-car component. A requirement for a separate EIS on the new scheme was made on 22 November 1990 but the requirement was subsequently withdrawn on 21 December 1992. The proponent was given further time to obtain expressions of interest in the project and to obtain financial backing. A revised scheme was finally approved by the SAPC on 25 March 1993.

### *Wilpena*

The Wilpena tourist project, as with the Mt Lofty project, began with State government involvement. The Department of Tourism commissioned a tourism consultancy report for the Flinders Ranges (Cameron Macnamara 1986). This report identified Wilpena Station as a potential tourist resort site. A financial feasibility study was carried out by Ophix Finance Corporation Pty Ltd which was subsequently given approval in principle to

construct and operate a resort at Wilpena station subject to a number of conditions including an EIS. The EIS requirement was given on 10 August 1987.

The proposed site was added to the Flinders Ranges National Park so that management of the resort could be controlled under the National Parks and Wildlife Act. However, the developer was defined as the South Australian National Parks and Wildlife Service (SANPWS), a Crown agency. Ophix was therefore operating on behalf of the Crown. Normally planning approvals for Crown development are referred through the SAPC under Section 7 of the Planning Act, but in this case development within a national park which is carried out in accordance with a management plan for that park is exempt from the Planning Act under Regulation 59(e).

This meant that a management plan had to be produced in addition to the EIS. Both went on exhibition at the same time from 18 July to 26 September 1988 and were prepared by the proponent's consultant, Michael Williams and Associates Pty Ltd. The main features of the proposal (SANPWS, 1988a) are accommodation for 2,000 people in Stage I and a further 1,000 in Stage II, recreational facilities, waste water treatment plant, a large woodlot, on-site power or a new 33kV line from the south, solid waste disposal, and an 18 hole golf course.

A strong public response to the draft EIS produced 107 submissions which expressed concerns of development within a national park, adequacy of water supply, visual impact of a transmission line, tourist impact on the region, and vegetation clearance. Similarly the Government expressed concern over the water supply, the transmission line, vegetation clearance, the power line and the scale of the project. A response (SANPWS, 1988b), released 5 December 1988 attempts to answer many of these issues and provides additional hydrological studies. The big issue of development in parks was assumed to have been resolved before the EIS process started.

The Government's Assessment Report, completed 10 January 1989, expresses concern over water supply quantity, quality and long term sustainability. In particular it expresses doubt about the availability and appropriateness of water used for a golf course in such an arid region (SADEP 1989d). The report also expresses concern about impacts on vegetation, potential erosion, impact of a transmission line, and the overall scale of the project. The EIS was officially recognised on 16 January 1989, the same day that Cabinet approved the project, with conditions, in accordance with the park management plan.

The exemption of the approval from Section 7 of the Planning Act was strongly contested by the Australian Conservation Foundation, which took the matter to the Supreme Court of South Australia and lost, although it was given right of appeal to the High Court of Australia. However, this action was upstaged by the introduction of the Wilpena Station Tourist Facility Act, 1990, which is the only other piece of South Australian legislation, apart from the Planning Act, to incorporate environmental impact assessment.

## TRANSMISSION LINE PROJECT EISs

The four transmission line EIS projects were all proposed by the Electricity Trust Authority of South Australia (ETSA), a statutory authority of the South Australian government. The projects were all referred through Section 7 of the Planning Act because ETSA projects are treated as Crown development.

### *SA to VIC connection*

The South Australia to Victoria interconnection project (EIS required 16 November 1984) between South Australia and Victoria crossed State boundaries and therefore was also subject to Victorian environmental impact legislation (Environmental Effects Act 1978). In practice the EIS process in South Australia and the parallel Environmental Effects Statement process in Victoria were both assessed in co-operation between the Victorian Ministry for Planning and Environment and the South Australian Department of Environment and Planning. During the joint exhibition time (26 July to 26 September 1986) 30 public submissions were received from South Australia and 33 from Victoria. The draft EIS was prepared by both electricity authorities as the proponents (ETSA 1986a).

The inter-connection project was to construct approximately 140km of 275kV transmission line between Heywood in Victoria and a location about 15km east of Penola in South Australia, plus a 275/132kV substation and 132kV connections. The economic rationale for the interconnection stemmed from the Stewart Committee which estimated annual savings of AU\$14.4 million (1984 dollars) in electricity generation and AU\$57 million (1984 dollars) in capital expenditure. These savings, together with the new gas discoveries and decreased demand projections were important factors in shelving some power station and coal mining EIS projects. Public concerns in South Australia related

mainly to compatibility with existing land uses, effects on farming, devaluation of property and aesthetics. Similar issues were raised in Government comments. A response (ETSA 1987a), prepared by the proponents, was released on 2 February 1987.

The Assessment Report was completed by 3 June 1987 and the EIS officially recognised on 9 June 1987. In the assessment of the project recommendations were made for a composite transmission line route (out of three alternatives) based on least impacts to flora and fauna, greatest land use compatibility and least visual impact (SADEP 1987d). The project was approved on 14 July 1987, taking into account the recommended composite transmission line route suggested in the assessment.

#### *Tungkillo to Tailem Bend transmission line*

The second transmission line project requiring an EIS (12 November 1984) was the Tungkillo to Tailem Bend 275kV line. This project which was part of the overall interconnection network had a draft EIS (ETSA 1986b), prepared by Kinhill Engineers Pty Ltd, released for public comment between 29 September 1986 and 10 November 1986 during which time there were 14 public submissions. The main concerns expressed were from local landowners, along the three corridor options, regarding lines across properties, land devaluation and aesthetic impacts. Government comments expressed concern about conflict with mining activity in the area and danger for aerial spraying near multiple lines.

The response (ETSA 1987b) was prepared by ETSA's consultants and released on 3 August 1987. The Government's assessment which was completed on 22 February 1988 suggested an alternative to the three routes proposed and obtained further public comment from interviews with 10 of the affected landowners. In the recommendations of the Assessment Report (SADEP 1988a) a route with least environmental impact is suggested but this route has a greater cost because of the need for additional tension towers to handle route deviations. The EIS was officially recognised on 22 March 1988 and the project was approved on the same day, adopting the more expensive route proposed in the assessment.

#### *Tungkillo to Cherry Gardens Transmission Line*

The third transmission line, a 275kV line between Tungkillo and Cherry Gardens, was

also part of the interconnection network. The draft EIS (required 16 November 1984) indicating five alternative schemes (ETSA 1986), was prepared by Social and Ecological Assessment Pty Ltd and released for public comment between 4 April and 30 May 1986. During this time there were 39 public submissions. As with other transmission line EISs, the submissions were concerned with local environmental issues regarding the position of the line relative to their land. In this case a prime concern was the potential impact on property values. However both public and Government comments expressed concern with the potential visual impact of this line particularly in the scenic Cherry Gardens area.

The response (released 19 January 1987), prepared by ETSA's consultants, attempted to address some of the environmental concerns raised but suggested that any remaining issues were not sufficient to preclude the cheaper northern route option, some \$6M cheaper (ETSA 1987c). However, the Assessment Report (completed 9 October 1987) disagreed and opposed the northern route on environmental grounds. The report suggested a southern route with triple circuiting in more sensitive areas. The assessment argued that the cost disadvantages were outweighed by environmental advantages (SADEP 1987c). The EIS was officially recognised on 23 October 1987 and ETSA on recommendations from SAPC decided in favour of the southern option.

#### *Ardrossan to Dalrymple transmission line*

The fourth of the transmission line projects was for a smaller 132kV line on Yorke Peninsula between Ardrossan and Dalrymple. A draft EIS (required 13 October 1987) was prepared by Woodburn, Fitzharding, Geotechnical Pty Ltd on behalf of ETSA. The draft EIS (ETSA 1989) outlined two route variations and was released for public comment between 27 May 1989 and 10 July 1989, during which time there were 26 public submissions. The major issues raised were impact on farming and roadside vegetation, fire risk and visual impact. Similarly, Government comments focused on farming issues and visual impact, in addition to heritage and planning issues.

In the Supplement (released 10 February 1990), prepared by ETSA's consultants, ETSA proposed a third transmission line route option in response to public comments (ETSA 1990). The Assessment Report (completed 9 July 1990) generally supported most of the amended route and makes recommendations regarding vegetation clearance (SADEP 1990d). The EIS was officially recognised on 18 July 1990 and the project approved on 15 October 1990.

## POWER-RELATED PROJECT EISs

The two power-related (electricity generation) projects were both proposed by separate State government statutory authorities. The first project, a power station was proposed by ETSA which operates under its own Act. The second project, a gas pipeline to a power station, was proposed by the Pipelines Authority of South Australia, which also operates under its own Act. Both projects are regarded as Crown development and technically should both have been processed through Section 7 of the Planning Act, although the pipeline project was exempted (see below).

### *Northern Power Station*

ETSA proposed to build an additional 250MW boiler turbo-generator unit to an existing power station at Port Augusta in order to cope with forecast demand and retirement of other generating plant. An EIS was required on 26 September 1981. The draft EIS (ETSA 1985), prepared by Kinhill Stearns Pty Ltd, was subsequently released for public comment between 14 August 1985 and 9 October 1985, during which time there were 15 public submissions, mainly from local residents concerned with coal dust emissions, ash disposal and mangrove die-back. However, some submissions raised issues of energy sources and energy conservation. Government comment was related to impacts on marine ecology from the heatload of cooling waters, socio-economic effects and air and noise emissions. All these comments were responded to in the Supplement (ETSA 1986d) which was prepared by ETSA's consultants and released on 18 August 1986.

The Government's Assessment Report (completed 27 November 1986) accepted the rationale for the project given by ETSA and raised no major questions about projected demand or the appropriate use of non-renewable energy resources such as coal over other energy sources (SADEP 1987e). Thus the major policy decisions taken by the government on the form of electricity generation were not subject to the formal environmental impact process. The EIS was officially recognised on 29 January 1987 and the project was approved by Cabinet. However, it was never constructed because of factors external to the EIS process. Changes in electricity demand, major new finds of natural gas and an interconnection between the South Australian and Victorian electricity grid reduced the viability of the project.

*PASA Pipeline project*

The second energy generation project, proposed by the Pipeline Authority of South Australia (PASAa), was to ensure a reliable gas supply to the major (1,280MW) Torrens Island Power Station by duplicating the existing gas pipeline via an alternative route. An EIS was required on 3 January 1985 and a Draft EIS, detailing 3 alternative pipeline routes was prepared by Kinhill Engineers (PASA 1985b). The draft EIS was released for public comment between 2 February and 3 March 1985, attracting 15 public submissions. The major issues with the project were the determination of the most satisfactory pipeline route having regard to land use conflicts, pipeline failure risk, construction and maintenance and environmental impacts on a conservation park and an aquatic reserve.

Although the response (released 30 April 1985), prepared by Kinhill Engineers, attempted to address most of the issues raised, it was necessary to provide additional information on the effect of suspended sediment on seagrasses (PASA 1985b). The additional data from these studies were submitted by ETSA and considered in the Government's Assessment Report (completed 20 November 1985). The assessment concluded that the land based route had least adverse environmental impacts, but the greatest functional and economic disadvantages (SADEP 1986c). Consequently, the Assessment Report recommended one of the cheaper alternative routes which traversed an aquatic reserve.

Apart from the logistical parameters, a major issue was the potential impact of two of the routes on the marine ecosystem. The Department of Fisheries which has a charter to protect marine flora and fauna under the Fisheries Act 1982 objected to a pipeline through an aquatic reserve. However, the lower cost and greater security for the marine route resulted in Cabinet approval of the project at the same time as official recognition of the EIS. The pipe was constructed and the marine impact carefully monitored.

The pipeline project was approved by Cabinet rather than ETSA on advice of the SAPC according to Section 7 of the Planning Act. The reason for this is that the project was exempted from planning approvals under the Planning Act by Regulation 59(d) which exempts *construction, reconstruction, alteration, repair or maintenance of any drain, pipe or underground cable*. Although this exemption was never disputed, it appears to be incorrect since Section 59(d) goes on to say *other than on or under land which is subject to coastal process*.



## TRANSPORT PROJECT EISs

### *South East Highway*

The south-east highway project was initiated by the South Australian Commissioner of Highways and had a requirement for an EIS (7 March 1986) under Section 49 of the South Australian Planning Act. However, funding was being sought for the project from the Commonwealth government so that it also had to satisfy the requirements of the Commonwealth Environment Protection (Impact of Proposals) Act, 1974. The proposal was to upgrade and modify the south east highway between Adelaide and Crafers. A draft EIS was prepared by Maunsell and Partners (Commissioner of Highways of South Australia 1987a) and released for public comment between 9 March 1987 and 4 May 1987. This document discussed three main new road construction corridors, in addition to alternatives to new road construction. A total of 38 public submissions was received. There was also significant public involvement through road user surveys, public meetings, a 'hot-line' phone service, and widespread media coverage.

Public comments indicated a preference for a new road in one of the corridor options but raised concerns about justification for the project, social and economic effects, heritage impacts, and effects on flora and fauna, particularly in the Cleland Conservation Park. In addition to these issues, Government comments raised issues of visual impact, erosion and pollution implications, disposal of excavated material, crosswinds, and air quality.

A Supplement, prepared by Maunsell and Partners (Commissioner for Highways of South Australia 1987b), and released on 27 July 1987, responded to these issues and in particular proposed an amended corridor alignment. The corridor 'C1' which was a preferred option in the draft EIS was amended to a corridor 'C3' which avoids intrusion into the Cleland Conservation Park and reduces impact on Crafers North. The Government's assessment, completed on 15 November 1987, supports the amended corridor 'C1' although corridor 'A' has less environmental and social impacts. The assessment argues that the modification of corridor C1 to C3 in the Supplement will cost an additional \$3 million in order to reduce environmental impact, but that the much reduced impact of corridor A has a \$50 million additional cost which is difficult to justify (SADEP 1987f). The EIS was officially recognised on 24 November 1987 but Commonwealth funding has not yet been obtained to commence the project.

## MINING DEVELOPMENT PROJECT EISs

### *Kingston Lignite Mine Proposal*

The only mining project to have an EIS conducted under the Planning Act was also the first project to have an EIS requirement under this Act (a requirement under Section 59, 4 August 1982). The proposal, unlike other energy or power related projects in South Australia, came from a private company, Western Mining Corporation, Pty Ltd. The proposal was for an open cut mine of low grade coal in an agricultural area of the south east of the State over a period of 37 years. It was intended that the coal would supply a proposed 1000MW power station in the region.

A draft EIS prepared by Kinhill Stearns (Western Mining Pty Ltd 1983a) was released from 26 April 1983 until 20 June 1983, during which time there were 26 public comments. There had also been a number of public meetings in the local area, particularly with the farming community. The main issues raised in public and government comments related to the justification of the project (particularly considering the low quality coal to be mined), potential impacts of dewatering two aquifers, vegetation clearance, social impact, land management and economic issues and the operation of the mine. Questions were also raised about alternative energy sources and coal deposits, and the need to consider the mining project in conjunction with the potential impact of a proposed associated power station in the region.

The proponent addressed the comments raised in a Supplement (Western Mining Pty Ltd 1983b), which was prepared by Kinhill Stearns and released on 11 November 1983. The Government's detailed 314 page assessment was completed on 15 February 1984. At the same time as the Government's Assessment Report was being completed an independent committee was investigating future energy options for the State but this debate was not subject to a public forum for debate on the environmental impact of the various options. The Assessment Report (SADEP 1984a) concluded that the project was environmentally acceptable provided that the recommendations contained in the report were adopted. These included a number of pre-conditions and recommended conditions if mining were to be approved. Key pre-conditions related to impacts of an associated power station, the need to investigate alternative coal sources, and the need for further hydrological studies. The EIS was officially recognised on 5 August 1984.

Further hydrological studies subsequently caused the proponent to investigate alternative recovery methods such as dredging the coal. However, the government's investigations into future energy options for South Australia led to a decision in July 1985 not to proceed with the Kingston proposal. As noted above for the northern power station proposal, the economics of electricity generation changed dramatically with new gas discoveries, lower demand than predicted and the prospect of inter-connection with the Victorian electricity grid. As a result the Kingston project became economically unviable.

## URBAN DEVELOPMENT PROJECT EISs

Most urban development projects or major subdivisions in South Australia are usually dealt with under the normal planning system, and where necessary accompanied by an SDP is to amend the Development Plan.

### *Thompson Beach Subdivision*

The Thompson Beach subdivision proposal was a private development proposal, by Cape Investments Pty Ltd, for a 250 allotment residential subdivision totalling around 30 hectares plus a similar size reserve area. The subdivision was to be in a coastal complex of tidal flats and beach ridges which extended back to a low lying swamp area. An EIS for the project was required on 30 May 1983. A draft EIS (Cape Investments Pty Ltd 1985a) was prepared by Wallman Planning consultants and released for public comment between 8 June and 3 August 1985, during which time there were six public submissions plus Government comments. The main issue raised was the potential for flooding. Concern was also expressed about the inconsistency of the proposal with planning policies, the inadequacy of water supply, and the relationship of the project with the nearby Proof and Experimental Establishment run by the Department of Defence.

A Supplement (Cape Investments Pty Ltd 1985b), addressing most of the issues raised, was prepared by Wallman Planning consultants and released on 14 December 1985. The major issue of potential tidal inundation is dealt with in the Supplement by proposing to raise a planned levee bank which doubles as an access track to the site.

However, in the Government Assessment Report, completed on 18 February 1986, there is an argument against approval for the project on the basis that it was development in a flood prone area (SADEP 1986a). Similarly the CPB advised the Minister for

Environment and Planning that the development was unwise. The EIS was officially recognised on 25 February 1986 and in accordance with (then) regulations the decision on the project was left to the local council for a decision.

Notwithstanding the philosophical opposition to the project on coastal matters, the project was approved by the local council on 24 April 1986. Subsequently an amendment was introduced into the Planning Act (1985) removing any planning decision from local councils for all projects associated with an EIS.

### *Multi-Function Polis Proposal*

The concept of a Multi-Function Polis (MFP) proposal for Australia began in discussions between the Australian and Japanese governments in February 1987. After the formation of a steering committee and competitive bids for project, an Adelaide based project was given the go-ahead on 31 July 1991. Given the 'in-principle' approval for the MFP project, there was no suggestion by the Government that an EIS would be required on the concept of the MFP itself. However, the project was based around a core site on land at Gillman/Dry Creek northwest of Adelaide. On 22 August 1991 a requirement under the South Australian Planning Act was given for an EIS on the urban development at Gillman/Dry Creek. In addition because of Commonwealth funding and other support there was a requirement that the South Australian EIS should satisfy the requirements of the Commonwealth Environment Protection (Impact of proposals) Act. There is also a requirement in the MFP Act, 1992 (Section 12) that an EIS should be prepared for this site before any development is undertaken.

The proponent was designated as the Premier for South Australia, who had the draft EIS (Premier for South Australia 1992a) prepared by independent consultants (PPK Consultants Pty Ltd and CSIRO). This was released for public comment from 21 October until 13 December 1992, during which time there were 56 submissions. The major issues raised were geotechnical evaluation of the site, groundwater and water quality issues, public health and air quality, biological impact, social impact, transport, economic issues, infrastructure, waste disposal, management of the site, and alternative sites. Government comments picked up similar issues but also focused on the contaminated nature of the site, geotechnical and hydrological issues, impacts on the mangrove/samphire ecosystem, social impact, environmental health, heritage issues, community services and infrastructure, and risk analysis from adjoining developments.

The Supplement (Premier for South Australia 1992b), prepared by the Premier's consultants was released 24 August 1992, contained an initial draft of an environmental management plan (EMP) in addition to attempting to address the issues raised. The Government's assessment, completed 6 November 1992, concluded that the Gillman/Dry Creek urban development was assessed as a concept for a 30 year development rather than a firm proposal (OPUD 1992). This meant that much of the data in the draft EIS and Supplement was of a preliminary nature which not only created difficulties in assessment but also brought criticism from the public. The draft EMP was considered to have an inadequate scope and skeletal information. For this reason, apart from a list of 33 recommendations in the Assessment Report, considerable emphasis is placed on the preparation of an adequate EMP, consultation in its preparation, and approvals to be required for the EMP and any subsequent EMPs. The EIS was officially recognised on 10 November 1992. However, no decisions are required until such time as firm development proposals are lodged. These are likely to be consistent with an MFP-SDP which was prepared and released for public comment at the same time as the draft EIS.

#### WASTE DISPOSAL PROJECT EISs

##### *Waterloo Corner*

The Waterloo Corner waste disposal EIS process has been discussed by Fookes (1987a). The proposal by a private solid waste collection and disposal company, Remove All Rubbish Pty Ltd, was to establish a solid waste disposal depot within a local council area north of Adelaide. The proposal, in being referred to the SAPC for advice, was brought to the attention of the Minister who required on 14 July 1983 that an EIS be prepared.

A draft EIS (Remove all Rubbish Company Pty Ltd 1983) was prepared by Wallman Planning consultants and released from 12 November 1983 until 3 January 1984, during which time only four public submissions were received, although there was also a petition containing 152 signatures. Fookes (1987a) lists 30 issues raised in the public and Government submissions to illustrate the range of environmental and planning factors involved in the assessment of the project. The most significant issues raised were groundwater impact, site selection, project justification, use of agricultural land, landscaping, inconsistency with Development Plan, pollution impact and bird hazard. As noted by Fookes, the proponent found it necessary to conduct further investigations

because of the number of issues raised. The Supplement (Remove all Rubbish Company Pty Ltd 1984) prepared by the same consultants, was released on 2 March 1984.

The Government's assessment (completed on 17 April 1984) concluded that the project was adequately substantiated and that issues of site alternatives, environmental effects, site suitability and rehabilitation had all been satisfactorily addressed (SADEP 1984b). The assessment pointed out that the South Australian Waste Management Commission opposed the proposal, but suggested that this related more to their expectations of the depot operation rather than any environmental concerns. The report indicated that there was not likely to be any adverse impact provided the company adhered to its proposed development in the EIS. The EIS was officially recognised on 30 May 1984.

The EIS was used by the SAPC in recommending approval to the local council. However, the council refused the project (12 June 1984) on the grounds that it did not comply with the Development Plan. The company appealed to the Planning Appeals Tribunal which upheld its case on 4 March 1985. The matter was subsequently appealed to the High Court which upheld the tribunal's decision and according to Fookes (1987a) the company's case benefitted from the scrutiny and rigour of the EIS process. As noted above in the Thompson's Beach example, local councils no longer have decision making authority over EIS projects.

## WATER PROJECT EISs

### *Woolpunda Salinity Mitigation Scheme*

The Woolpunda Salinity Mitigation Scheme was a State government proposal by the South Australian Engineering and Water Supply Department (E&WS). The proposal was to reduce saline groundwater inflow to the River Murray by a series of 47 high-yielding bores and an underground pipeline system which would be used to pump saline water away from the river and into disposal basins. An EIS under Section 49 of the Planning Act was required for the project on 1 June 1986, and because the interception scheme was to be jointly funded by the Commonwealth it also had to satisfy the requirements of the Commonwealth Environment Protection (Impact of Proposals) Act.

A draft EIS (E&WS 1987a) was prepared by Kinhill Stearns and placed on public exhibition from 21 April until 2 June 1987, and 13 public submissions were received.

These were mostly concerned with the selection of the preferred basin from the four alternative disposal basins, but also raised issues such as alternative salinity mitigation strategies, ecological impact, justification of the project, and the heritage impact. Government comments focused on the relative impacts of alternative disposal basins, particularly with regard to biological and hydrological impacts.

A Supplement (E&WS 1987b) prepared by the same consultants addressed most of the issues raised and was released on 23 November 1987. In the Government's Assessment Report (completed on 15 March 1988) it concludes that all of the disposal basin alternatives would involve native vegetation clearance (SADEP 1988b). The report suggests that Basin Y is the best alternative even though it affects native vegetation and has the highest capital cost of the alternatives. The most economical basin (Basin B) had unacceptable impacts on native vegetation, and basins G and H had unacceptable social impacts by disrupting property owners. The EIS was officially recognised on 21 March 1988 and the scheme was approved by Cabinet on the 10 August 1988.

#### DEFENCE PROJECT EISs

##### *Proof and Experimental Establishment, Port Wakefield*

The Proof and Experimental Establishment at Port Wakefield is operated by the Commonwealth Department of Defence. It was proposed to extend the establishment closer toward Metropolitan Adelaide to allow for field testing of a 155mm Howitzer M198 field gun. This would involve the acquisition of a number of properties at Port Parham and Webb Beach. Unlike the other EIS projects outlined so far, this project was not subject to decision making within South Australia. However, it was required, on 13 September 1983, to prepare an EIS subject to Section 49 of the Planning Act. It also had a requirement to prepare an EIS under the Commonwealth legislation. It was agreed that liaison should occur between the State and Commonwealth authorities in conducting the EIS process using the Commonwealth procedures and that a separate Assessment Report should be prepared by each authority.

A draft EIS (Department of Defence 1985) was prepared by SEA and PPK Pty Ltd and released for public comment between 25 June and 23 August 1985, during which time there were 244 public submissions. In addition a further 2,427 signatures were received on petitions. These were largely concerned with the social impact of the proposal by the

land acquisition and subsequent dislocation of Port Parham and Webb Beach inhabitants, in addition to restricted coastal access for many others. Government comments raised additional issues of the nature of proof testing, future testing needs, use of high explosives, heritage issues and biological impact along the coast and nearshore.

In response a Supplement (Department of Defence 1986) was released on 19 March 1986 and the South Australian Assessment Report completed on 30 May 1986. The Assessment Report concluded that there should not be a significant impact on the natural or cultural environment, but that there would be significant social impact (SADEP 1986b). The restrictions to coastal access coupled with the dislocation of residents at Port Parham and Webb Beach were considered to be unacceptable. The Assessment Report recommended that no testing requiring a range greater than the proposed extended prohibited area should be allowed. The South Australian EIS was officially recognised on 22 August 1986 and advice provided to the Commonwealth resulted in a restricted extension of the range in view of the social impacts.

## SUMMARY

Although the 34 completed EISs are discussed here collectively for the first time, there has previously been some discussion of individual EIS projects and the South Australian EIA process by authors such as Fookes (1987a), Harvey and Swift (1990a, 1990b). Other authors such as Damania (1992) and Jenkins (1990) provide very little detail on individual projects within their general discussions on the EIA process. This chapter has examined how the discretionary criteria for EIA are applied in practice in South Australia.

The outline, in this chapter, of each of the 34 EISs completed under the South Australian Planning Act is necessarily brief. However, it does provide a unique outline of some of the major issues involved with the various projects and gives an overview of the types of projects, the proponents, the timing of each project, the levels of public involvement, the decision makers and the legislative processes. Much of the data presented in this chapter has been collated from unpublished Government documents. Access to these data and knowledge of their existence and whereabouts has been made easier by personal professional involvement with the EIA of many of the projects. These data provide the basis for the analysis and discussion in following chapters.