THE ROLE OF WATER RESOURCES DIVISION

JUNE 1989
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1. **INTRODUCTION**

Whilst Government recognises the ongoing importance of the water resources function, its administration has been the subject of much debate and considerable change over recent years. Since December 1984 the function has sequentially been the responsibility of Transport and Works, Mines and Energy, The Northern Territory Water Authority, and since July 1987 the Power and Water Authority.

Recently announced changes to PAWA organisation make it appropriate to confirm the role, administration, and relationships of the Water Resources Division within the Authority.

2. **THE STATUTORY CHARTER**

Any public sector organisation's reason for being stems from legislation.

The Power and Water Authority Act 1987 Section 14(2) (b) states that a Function of the Authority is "to assess, manage, and develop water resources in the Territory".

The Control of Waters Act is legislation relating to "rights in natural waters", vesting them in the crown.

The draft Water Bill reinforces Crown rights in respect of groundwater.
The Water Supplies Development Act provides for "assistance in developing or improving water supplies for pastoral or agricultural production".

The Director of Water Resources currently holds Statutory delegations from the Minister under both the Control of Waters Act and the Water Supplies Development Act. Both these acts are outdated and deficient, and it is proposed to consolidate them into a single piece of contemporary legislation to be called the Water Act.

3. ORGANISATION OBJECTIVES

The strategic direction for PAWA has been set in the interim Corporate Plan which cites a Corporate Vision, Mission Statement, Corporate Goal, and Corporate Objectives related to various aspects of the Authority’s business.

The stated primary objective of the Water Resources Division is to "assess, promote the orderly development of, and regulate the water resources of the Northern Territory for the optimum long term community benefit".

This objective is consistent with the statutory charter, and the PAWA objective. It is to be undertaken in a commercial manner.
4. **THE ROLE**

4.1 **What we do**

Put simply it is the responsibility of WRD to manage the natural water resources of the NT. An examination of how this function can be best administered within PAWA will be better understood if we first define resource management and its component parts.

Water resources management is achieved through the development and application of Government policy evolving from a range of technical evaluations and interactive decision making. The main inputs to resource management decision making are as follows.

Assessment: - The gathering of raw data, and its interpretation so that we can better understand the resource.

Planning: - Comparative analysis on the best uses of water for the future. One set of needs will usually forgo other opportunities and this process must recognise all legitimate uses of the resource.

Development: - Almost all economic development depends to some extent on water. Development of the resource occurs when it is changed in some way either quantitatively or qualitatively. PAWA is in the development business.
Regulation: - Sets limits on the ways in which we use water.

Policy: - Policies, primarily the responsibility of Government, must give balanced direction to overall economic development and conservation.

More specifically this overall role has been endorsed by the Clegg Review and led to Cabinet Decision 5675 of 9 August 1988 which approved the following.

- Water Resources Group (WRG) should remain within the PAWA structure.

- The operational philosophy of WRG will be to act as a service organisation, identifying and charging full cost recovery based charges, with such costs calculated on an accrual accounting basis, whilst at the same time continuing to undertake forward planning for resource assessment and identification.

- WRG continue to provide services to Government on resource assessment, data collection, data management, flood plain management, and the "Dud Bore" scheme, on a basis to be agreed with Government each financial year through the normal budgetary processes. Such services would be funded by a budget appropriation to the authority.

- The important commercial objectives of PAWA are acknowledged and will be pursued wherever appropriate. However, PAWA will need to maintain its involvement with a drilling programme and laboratory activities and services.
In addition specific statements of Government policy are made from time to time and a fairly comprehensive review of those related to water resources is given in the Clegg Report.

4.2 Who we do it for
The WRD is custodian of the NT water resources information system. Its role in data collection and assessment for developmental purposes is recognised throughout Government, and other Departments have historically used the Division to provide for their needs in this area. Such services are now provided within and outside PAWA on a commercial basis, hence clients will (and already have), make choices between ourselves and the private sector.

The NT receives financial assistance from the Commonwealth Government for some projects and programs associated with Water Resources but identified and programmed in accordance with NT needs and priorities.

Commercial services can also be provided to the public and to industry but normally only in circumstances where the service cannot be undertaken by the private sector.

Advice is always available to the public through the Rural Advisory Section.

Table 1 shows clients and main functions in matrix format.

4.3 How we do it?
WRD embraces a very wide range of professional and technical disciplines and; a diversity of clients, funding sources, and project types. Very few projects can be

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<table>
<thead>
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<th>TABLE 1</th>
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<tbody>
<tr>
<td><strong>WATER SUPPLY</strong></td>
</tr>
<tr>
<td>Policy review, development, and services (laboratories, professional, technical)</td>
</tr>
<tr>
<td>Baseline inventory - data collection and processing</td>
</tr>
<tr>
<td>Environmental monitoring and assessment</td>
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<tr>
<td>Environmental assessment</td>
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<tr>
<td>Floodplain management studies</td>
</tr>
<tr>
<td>Other hydrological studies</td>
</tr>
<tr>
<td>Management assessment, development, and services (laboratories, professional, technical)</td>
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<tr>
<td>Regional assessment studies</td>
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<td>Baseline inventory - data collection and processing</td>
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</tr>
<tr>
<td>Regional assessment studies</td>
</tr>
</tbody>
</table>

**PUBLIC**
- Consultants
- Contractors (rural, tourism, etc.)
- Industry
- Institutions
- Educational
- Commonwealth
- Community/NGO
- Govt. Deps.
- Other NGPs

**TABLE 1**

<table>
<thead>
<tr>
<th>SAMPLE</th>
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<tbody>
<tr>
<td>PUBLIC</td>
</tr>
<tr>
<td>CONSULTANTS</td>
</tr>
<tr>
<td>CONTRACTORS (RURAL, TOURISM, ETC.)</td>
</tr>
<tr>
<td>INDUSTRY</td>
</tr>
<tr>
<td>INSTITUTIONS</td>
</tr>
<tr>
<td>EDUCATIONAL</td>
</tr>
<tr>
<td>COMMONWEALTH</td>
</tr>
<tr>
<td>COMMUNITY/NGO</td>
</tr>
<tr>
<td>GOVT. DEPS.</td>
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<tr>
<td>OTHER NGPS</td>
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</tbody>
</table>

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undertaken entirely within one part of the organisation. Most projects involve inputs across Sections and Branches and in some case across regions.

There needs therefore to be a high level of flexibility and cooperation across the whole Division to ensure all the necessary resources are brought together and managed for the optimum result. Consequently there is a comprehensive project management system in place which ensures all tasks involving more than a few days work are identified; briefed; costed and timetabled; accepted by the client and the Division; monitored; and hopefully completed within budget and on time.

Project supervisors, and managers are appointed with responsibility for the physical and financial progress of the project. A Project Management Committee, made up of project supervisors, is responsible for overall coordination of the work program.

Individual project managers are normally professional officers in the Hydrology Branch and have to rely on inputs from the service Branches - Technical Services and Laboratories.

With commercialisation it is essential that financial performance can be adequately monitored on a project, program, and function basis. This has not been possible to date except by considerable manual effort. From July it is expected a computerised job costing system will be in place and this will allow realistic assessment of efficiency and commercial performance.

The Division, as directed by Cabinet operates on a service basis. Its work can be categorised as follows.

(i) Business
    Work for PAWA

(ii) Client
    Work for other Departments, the Commonwealth and other identifiable paying clients.
(iii) Community Work undertaken on behalf of the NT Government for the longer term community benefit.

All work can be considered as commercial. "Community" activities are funded by appropriation from the NT Government.

Whilst many of the "community" activities are ongoing programmes that will continue (with review) year after year, the remainder of the work program is dynamic with most projects identified in the budget process through forward works programs or arising through separate government initiatives.

As the work program can vary from year to year in type, content, and geographic spread, there is a need to maintain the greatest possible flexibility with resources.

To carry out its work for a wide range of clients constant liaison is necessary. Individual contacts are maintained at Division, Branch, Function Head and Project Manager level, with counterparts across Government, and close internal working relationships are necessary with Strategic Management, Water Engineering, AES, and the Regional offices.

Table 2 provides information on a function by function basis on the work categories, clients, recoveries and inter-relationships.
4.4 **Can it be done better?**

There is two ways to answer this question.

Given a fully resourced organisation with committed and appropriately skilled staff; adequate administrative support; a clear set of objectives; and a reasonable level of stability; it can certainly be done better. We do not have this situation at present but we are working vigorously towards it.

The other response, and the one I feel bound to address, relates to how water resource functions are administered within the authority and whether further responsibilities should be devolved to the regions.

Broadly the options are:-

(i) Devolve responsibility for developmental activities
(ii) Partial devolvement
(iii) The status-quo

(i) Devolve responsibility to regions

Regional Managers would perceive their objective as providing cost efficient water, sewerage and power services, to consumers within their region.

In meeting this objective there will certainly be inputs required from WRD on resource development and to a lesser extent ongoing operational monitoring and management. This level of input will vary across regions and over time but will include activities such as:
- regional groundwater investigations for source augmentation
- borefield design and bore construction
- yield and flood assessments
- aquifer modelling and management
- waste disposal assessments
- water quality monitoring

Resources to meet all these services (where appropriate) could be provided within each of the regional offices. Whilst this would be in accordance with the concept of regional autonomy it would lead to significant duplication, reduced efficiency and level of service, and a totally unmanageable situation.

My reasons for saying this are as follows:

- Regional Managers of their own admission, do not have a good understanding of the resource management function and would undoubtedly lack commitment to it.

- Short term operational priorities would potentially compete with resources for longer term objectives which may be strategically far more important.

- Major projects require multi-disciplinary teams which can be assembled currently by utilising the appropriate expertise on an NT wide basis. "Ownership" of project personnel by the regions would reduce/eliminate this flexibility. Providing a full range of necessary expertise within the regions to make them autonomous would require unwarranted duplication.

- Programs of work (excepting for some routine data collection and monitoring) can vary significantly from one year to the next in each region. Again with devolution of responsibilities to the region the flexibility to deploy staff across regional boundaries to
meet work load variations from year to year, and on a seasonal basis, is minimised. Similarly major plant items are seen as an NT wide resource and should be interchangeable across regions to meet particular job demands. Regional autonomy would also reduce this capability.

- Cabinet has endorsed WRD operating as a "service" group to PAWA and to Government on a cost recovery basis. This concept is largely lost with devolution to the regions. Furthermore the financial accountability at regional level is less precise if it is to budget for and manage expenditures not directly related to provision of power, water, and sewerage services ie. external clients (including Treasury).

- WRD undertakes many projects associated with source development but even then the client is very rarely the Regional Manager. Strategic Management, Water Engineering, and AES are WRD's major internal clients. Very little WRD activity directly relates to day to day operation of services.

- One of PAWA's (and the NT Government's) most valuable assets is its water resource data base. Its ongoing maintenance and integrated development must remain a centrally coordinated function and there is a danger that if data collectors in the regions are divorced from a sense of ownership of the corporate data base their commitment to it, including standard of data collection may wane.

- With duplication of resources in regions there would be a severe problem in maintaining technical and professional standards and coordinating staff development and training. Retention of discipline leaders in the head office structure would be inappropriate.
In summary devolution of WRD "development" functions to the regions would result in:

- Conflict of interest and lack of commitment to important work
- Duplication of resources/expertise
- Reduction/abolition of flexibility to interchange resources/manpower and equipment to accommodate seasonal or yearly shifts in work load or type.
- Loss of overall technical direction, standard, coordinated training, and ultimately expertise.
- More difficult financial accountability for regional managers.
- An unmanageable and inefficient overall arrangement.

(ii) Partial devolvement responsibility to regional offices

Some functions or programs of work do provide an ongoing service to Regional Managers, and in some cases services required by WRD could possibly be provided by the regions.

Parap Laboratory

It has been suggested many times that the Parap laboratory become the responsibility of the Darwin Regional Office. Most of the work of this laboratory is in direct support of the operations managers covering routine analysis, direct advice and trouble shooting, and investigations. It must be remembered however that this laboratory activity is only about 30% of a total activity - furthermore the existing laboratories are being co-located and reorganised to ensure efficiencies and flexibility in operation. It makes no sense to disaggregate laboratory functions. Service is provided on a commercial basis and I have not heard any complaints regarding the level of that service. The laboratory's service a large range of government and private sector clients, and all PAWA regions, not just Darwin Region.

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Another alternative would be to have the laboratory part of Utilities Directorate. The same arguments as above would apply.

Groundwater Monitoring

A routine operational program in respect of towns and major communities, and groundwater regional basins, is to collect and assess information on groundwater level variations. Aquifer performance in response to demand and recharge mechanisms can then be monitored as a service to borefield operators and system planners.

Whilst this has been perceived as an operational function it is primarily a planning approach to understanding and confirming predicted aquifer behaviour, and identifying systems under stress for programming source augmentation.

Data collection for Aboriginal communities has become the responsibility of AES contractors on a trial basis. The data assessment requires WRD professional input, with AES and the tactical planners being the recipients of our advice.

Depot

Plant management and field support depots are operated at both Alice Springs and Darwin. In Darwin the Depot Manager also has the line responsibility for groundwater field staff (drilling and test pumping) when in town. Whilst the function itself should not be a Regional office responsibility for many of the reasons already discussed, the co-location of the Water Resources Parap depot function at Ben Hammond Workshops should occur in due course. At this time opportunities for integration in stores and materials management, plant maintenance arrangements etc, should be examined in more detail.
Drilling

This activity is argued by some as a direct service to water supply operators and could therefore be devolved to the regions.

Again drilling is only one activity in the successful siting and completion of producing bores. Drillers drill holes under direction, they do not site them nor do they design production bores. They have only a limited knowledge of hydrogeology. Professional input is required. Drillers do not make recommendations on pump capacity, type, setting, or borefield operation and management. This involves test pumping input and again professional direction and assessment.

PAWA is not the only client for drilling and groundwater assessment and development services.

The many implications previously outlined would result from devolving the drilling functions ie, duplication of resources, loss of flexibility, lack of direction/coordination, fall in standards and expertise.

The groundwater assessment and development service is only viable whilst it remains integrated.

Instrument Workshop

The instrument workshop is currently located in the depot complex at Parap. This small workshop is a direct service to the monitoring section. With the gradual phasing in of electronic instrumentation there is potential to examine integration with similar expertise at Ben Hammond in due course.
Construction/Maintenance

A small team provides an NT wide service in maintaining field installations for data collection. There is a close interaction between this team and field hydrographers, nevertheless there is no reason why the service could not be provided just as effectively from Regional offices.

In **Summary** there are very few activities which could be perceived as supporting day to day regional operations. There is no case to devolve resources to the region/s to meet these requirements.

There is scope however in the Northern Region for co-location and to consider partial integration of water resources depot functions, and for the Regional office to provide some services to WRD. There is however no pressing need for this integration and in my view there are many more important priorities over the next 12 months.

(iii) The Status Quo

Other than a second stage of integration of minor activities within the Northern Region office as outlined in (ii) above, the status quo should remain.

The multi-disciplinary, interdependent, NT wide nature of the WRD function means that effectiveness is highly dependent on it remaining a total entity. Any devolvement of functionality will inevitably lead to duplication, and reduced flexibility, standards, accountability, and expertise.
5. DISCUSSION WITH OTHERS

I have had brief discussions with other senior managers who will have a keen interest in this matter, and record their views below.

5.1 John Baskerville (RMS)

John agrees there is little commonality between water resources and his operational responsibilities. He supports the current arrangements for administering the water resources function in the southern region.

5.2 Kevin Jordan (RMN - Designate)

Kevin supports the proposal for WRD to report direct to the Chairman and be apart from the operational/development functions. He agrees that the Water Resources depot function should in due course co-locate at Ben Hammond and at that time integration options be considered, but does not see this as a short term issue.

Kevin put the point of view that as the Parap laboratory was very much a service facility to the water and sewerage operators it could become their responsibility or the responsibility of the Technical Services Division under Owen Peake. He also suggested a similar option for drilling.

My views on these functions are covered in Section 4.4(ii).
5.3 **John Souvertjis (MDSM)**

John sees WRD as providing a service to Strategic Management primarily in assessing (quantifying) source options. He stressed that development is driven by market forces and that WRD should not be out gathering data in areas where development was unlikely. A view held by WRD.

He accepts the distinction between source planning and resource planning and that planning undertaken by his Directorate is in assessing the strategic options to ensure water is developed in a way which will result in the best commercial result for the PAWA.

Resource planning goes beyond this in systematically looking at all the legitimate development and conservation uses of water, identifying potential conflicts, and addressing these issues so that economical development can proceed.

6. **OTHER ISSUES**

6.1 **Commercialisation**

It is still perceived by some that WRD is a non-commercial activity. An objective of mine is to demonstrate that WRD costs the Authority nothing as an overhead, and that in time can show a profit.

"Community" work undertaken on behalf of the NT Government can be considered a recoverable project in the same sense as any other client project. Manpower charge out rates and unit charges have been derived and an overall policy on "provision of services" is currently being documented for approval of the Board.
A marketing brochure is being designed and I will be seeking endorsement not only to respond to requests for service but to actively market our skills and resources within and outside NT boundaries. Work for PAWA will of course always be given highest priority. The current constraints we have are - staff vacancies and inability to attract and maintain expertise - inadequate financial management system. Corporate Services have promised 'Omicron' (project costing system) will be on line on 1 July.

6.2 Privatisation

Along with all the other changes over recent years, the Division has addressed the potential for privatisation. The commercialisation process puts clients in a position where they can now choose between using WRD or private sector services. This should provide stimulatus for the private sector, and will necessitate the utmost inhouse efficiency. WRD survival, in its developmental areas, will be dependent on maintaining responsive, high standard, and cost effective, outputs. Management will make adjustments where necessary in terms of cost effectiveness, once realistic financial information is available. Ultimately it will be our clients that make the choice.

6.3 The Planning Function

There is a planning activity which must be addressed which will not be undertaken by either strategic management or the tactical planners. I draw a clear distinction between resource planning and source planning. Source planning and other planning associated with developing water for
commercial benefit is the legitimate role for strategic planning. Resource planning is about, understanding the resource and identifying all its beneficial uses and options for long term development and conservation.

Strategic Management has the role of setting the strategic direction of the organisation towards a corporate objective measured in economic terms. As such, the planning undertaken by Strategic Management will necessarily be development oriented. The planning required for water resources will identify development options and implications within a broader framework.

I have discussed this with John Souvertjis and he sees no problem in this demarcation of roles.

There is of course potential for the development objective to come into conflict with the conservation objective and that is what resource management is all about. For this reason alone the WRD should stand apart from the operational/developmental arms of the organisation (including Strategic Management) and separate Statutory delegations should be retained.

6.4 Organisation

The water industry is changing rapidly. Whilst we keep saying we need stability and a chance to regroup, to stand still is to go backwards. Subject to the acceptance of the position put in this paper there is some urgent organisation fine tuning necessary.

(i) A clear focus within the WRD for planning and policy coordination is necessary. I have forwarded a submission on the matter to the MDW.
(ii) The monitoring Section needs to be fine tuned to recognise changing technology and work priorities and take advantage of current vacancies and staff elections to return to the NTPS. A submission has also been made on this matter.

(iii) There is an ongoing problem in attracting and maintaining experienced professional staff. The overall performance of the organisation will be inextricably tied to the expertise of its professionals. I have vacancies at present which I have been unable to recruit to and a level of dissatisfaction among existing staff concerning their lot. This issue has led to a report on professional levels being tabled by two staff members, and is currently under consideration by WRD management. I am aware it has also been brought to your attention by the Public Service Commissioner’s office and hasten to add that it is not at this stage endorsed by either myself or Division management. It has implications for the whole of the Authority.

In November last year I forwarded to Bronwyn Roy at your request a minute on issues related to professional staffing. This outlined some of my thoughts on recruiting and maintaining staff.

I am also concerned that over the next month there will be further defections to the NTPS. I know a number of staff have accepted the invitation to discuss their situation and that many are still assessing the chances of being offered a redundancy package.
6.5 Alice Springs Office

The current arrangement is that the Water Resources staff in Alice Springs are the line responsibility of the Regional Manager but functionally responsible to the Director of Water Resources. Budget is provided by the Region.

I have discussed this arrangement with both RMS and WRSS. RMS accepts admits he has little understanding of the function and has a high level of reliance and respect for WRSS. WRSS on the other hand has been trying to meet increasing demands with depleted staffing and sees both advantages and disadvantages in being independent of the Regional office. Although he accepts that his working relationship with RMS is satisfactory his ongoing concern is the potential for a lesser level of support service and/or redeployment of resources to meet operation needs, associated with decreasing support from head office.

From my position I have a good understanding with RMS and whilst I appreciate the concerns I have seen little past evidence to confirm WRSS’s fears.

In practice the Water Resources office interacts directly with head office on projects, programs, priorities, resource policy, standards, and technical direction. It operates under the same project management and financial control rules as Darwin and in every respect is an extension of the head office function. As discussed elsewhere it has very little in common with the rest of the Regional office in a work sense.

However the PAMA remote regions should be seen as an entity locally with a single person being the focus for the community. In addition it is appropriate for WRD to utilise centralised corporate services. I suggest therefore the status quo remains for the time being to be reviewed early in the new calendar year in conjunction with the budget process.
7. CONCLUSIONS

Cabinet has endorsed the Division's role within the PAWA for the management of water resources. It is a multi-disciplinary, NT wide function which involves assessment, planning, resource development, regulatory and policy development activities. My interpretation of Cabinet Decision 5675 is that Cabinet see the Water Resources Division continuing to provide services to Government overall.

The Division has a primary role in assessing, assembling and disseminating information on the resource and in planning and regulating for its economic long term development and conservation. This work is generally undertaken on behalf of the Community as an investment in the long term development of the NT and is paid for by Government. It has a complementary role in making a range of expert services in water resource development available on a commercial basis to PAWA and external clients.

The role of resource management has little in common with the operation of regional offices but services are provided to the planners and designers of water and sewerage infrastructure.

These responsibilities can best be met if the Division is independent of operational and development oriented groups. Maximum efficiency, flexibility, and economy, will only occur if the integrated nature of the Division and its operating mechanisms is maintained.

The Division will perform at its optimum with expert and committed people and with appropriate financial and management systems support. There are deficiencies in these areas which require the quickest possible resolution. Given this, and some reassurance of stability in the foreseeable future, morale and commitment should rapidly increase and the great depth of experience and expertise already existing

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will be very quickly motivated to higher levels of performance.
<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>DESCRIPTION</th>
<th>WORK CATEGORY</th>
<th>MAIN CLIENTS</th>
<th>MAIN INTERACTIONS</th>
<th>COST RECOVERY</th>
<th>STAFFING</th>
<th>COMMENT</th>
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<tbody>
<tr>
<td><strong>HYDROLOGY BRANCH</strong></td>
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<tr>
<td>Hydrology Management</td>
<td>Branch Head (P5) manages branch, coordinates Division project program, provides senior advice within NT &amp; nationally. Functional heads for G/W and S/W (2x4s) provide technical reference point NT wide, supervise or manage projects. All three are part of WRD Corporate Management team.</td>
<td>B 30%</td>
<td>Cl 30%</td>
<td>Com.40%</td>
<td>Within</td>
<td></td>
<td>Either Hydrology direct, Branch or as a Branch loading on WRD other Hydrology Branch charges. Regional offices. Other Govt. departments.</td>
</tr>
<tr>
<td>Groundwater Evaluation Section</td>
<td>Undertake major groundwater investigation, development and management projects and provide expert advice.</td>
<td>R 75%</td>
<td>Cl 10%</td>
<td>varied</td>
<td>Clients</td>
<td></td>
<td>Full cost recovery for Tech services productive time. 6 Labs. Other sections of Hydrology Branch. Manage most groundwater project activities for a wide range of clients on a cost recovery basis. Expert advice input to Govt clients non recoverable at this stage.</td>
</tr>
<tr>
<td>Hydrogeology Section</td>
<td>Manages Govt drilling program, minor project work, groundwater data base and provides professional input to Advice Bore scheme and Rural Advisory Service.</td>
<td>R 65%</td>
<td>Cl 10%</td>
<td>Advice</td>
<td>ARES</td>
<td></td>
<td>Govt AES Govt drilling Services fully Other recoverable sections able. Charge Hydrology provision Branch. Groundwater data maintenance is funded as part of the NT Govt appropriation.</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>DESCRIPTION</th>
<th>WORK CATEGORY</th>
<th>MAIN CLIENTS</th>
<th>MAIN INTERACTIONS</th>
<th>COST</th>
<th>STAFFING</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geophysics Section</td>
<td>Provides specialist service, principally to G/W Evaluation and Hydrogeology sections Service to other clients</td>
<td>B 80%</td>
<td>G/W Evaluation</td>
<td>Project Managers</td>
<td>Full cost recovery for productive time.</td>
<td>3 2</td>
<td>Service section for internal clients. Some work direct for external clients.</td>
</tr>
<tr>
<td>Surface Water Section</td>
<td>Undertakes surface water projects including flood and yield studies, flood mapping, water resources assessment, and provides expert advice.</td>
<td>B 20%</td>
<td>PAWA</td>
<td>Project Managers</td>
<td>Full cost recovery for productive time.</td>
<td>3 2</td>
<td></td>
</tr>
<tr>
<td>Water/wastewater Quality</td>
<td>Provides professional internal consultancy service on matters related to water and wastewater quality. Project work.</td>
<td>B 80%</td>
<td>PAWA</td>
<td>Project Managers</td>
<td>Full cost recovery for productive time.</td>
<td>3 2</td>
<td></td>
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</tbody>
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NW53a
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<tr>
<th>FUNCTION</th>
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<th>MAIN CLIENTS</th>
<th>MAIN INTERACTIONS</th>
<th>COST RECOVERY</th>
<th>STAFFING</th>
<th>COMMENT</th>
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</thead>
<tbody>
<tr>
<td>Computing Services</td>
<td>Provide services to WRD and Water Directorate in technical computing systems development and applications support</td>
<td>B 30%</td>
<td>Water Directorate</td>
<td>(Info Systems)</td>
<td>Not charged</td>
<td>Direct</td>
<td>Functional responsibility to Information Systems Manager.</td>
</tr>
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</table>

| Rural Advisory Section | Provides shop front service to public on water resource development and administers routine work under WSDA and C of W A. | C1 5% | Public developers and consultants | .Public Control-recover- able Waters activity Comm.of at Water present | 3 | | |

Undertakes routine processing for permits, licences, and "Bore Advice" under legislation. Deals to finality with many public enquiries, and refers others on for professional input or policy advice. Nominal charges are to be introduced for "Advice bore" processing.
<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>DESCRIPTION</th>
<th>WORK CATEGORY</th>
<th>MAIN CLIENTS</th>
<th>MAIN INTERACTIONS</th>
<th>COST RECOVERY</th>
<th>STAFFING PT or other</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LABORATORIES</strong></td>
<td></td>
<td></td>
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<tr>
<td><strong>BRANCH</strong></td>
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</tr>
<tr>
<td>Nightcliff</td>
<td>Undertakes inorganic water analysis at environmental detection limits.</td>
<td>B 10%</td>
<td>ARBU (DME)</td>
<td>ARBU E.Point lab</td>
<td>Full cost</td>
<td>3 5</td>
<td>All laboratories are available to provide consultancy services at hourly rates. In practice this involves mainly the Parap laboratory.</td>
</tr>
<tr>
<td>East Point</td>
<td>Undertakes general inorganic water analysis and limited project work.</td>
<td>B 35%</td>
<td>Project Managers Rural Advice Various external labs Water Quality Section</td>
<td>Clients Other recovery based on unit costs for business &amp; client analyses.</td>
<td>Full cost 3 5</td>
<td></td>
<td>Work is proceeding to co-locate and integrate all laboratory functions at Parap.</td>
</tr>
<tr>
<td>Parap (2-1/2 mile)</td>
<td>Undertakes routine bacteriological analysis and other organic and inorganic work. Provides advisory service and undertakes project work.</td>
<td>B 80%</td>
<td>Reg.Off. Engin.</td>
<td>Water &amp; sewerage</td>
<td>Full cost 2 10</td>
<td></td>
<td>logical &amp;</td>
</tr>
</tbody>
</table>

NW53a
<table>
<thead>
<tr>
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<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>TECHNICAL SERVICES BRANCH</td>
<td></td>
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</tr>
<tr>
<td>Drilling</td>
<td>Provides an inhouse drilling service for groundwater resource investigations and a supervisory service for contract drilling.</td>
<td>B 75%</td>
<td>PAWA &amp; Project managers</td>
<td>Full cost recovery for productive time</td>
<td>- 13 ( + 3 P/time)</td>
<td></td>
<td>The drilling section is a service section which normally works directly to a project manager but under the functional control of the Drilling superintendent. Rig labourers are employed on L/T basis for field season only.</td>
</tr>
<tr>
<td>Test Pumping</td>
<td>Provides bore testing services to ascertain aquifer parameters so that recommendations can be made on yield and pump settings.</td>
<td>B 65%</td>
<td>PAWA &amp; Project managers Depot Drilling</td>
<td>Full cost recovery for productive time</td>
<td>- 12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depot</td>
<td>Provides plant management storage, stores, purchasing, repair, and logistics support for field functions</td>
<td>N/A</td>
<td>Drilling Test Ben Hammond, T&amp;W Trade Services Field Party leaders</td>
<td>Costs recovered as overhead- on charge out rates</td>
<td>7</td>
<td></td>
<td>Service group within Technical Services Branch.</td>
</tr>
</tbody>
</table>

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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Water Monitoring</td>
<td>Provides support for sample collection and field analysis of water quality</td>
<td>B 15%</td>
<td>Various Labs</td>
<td>Full cost - 5</td>
<td></td>
<td></td>
<td>Approx 50% of activity is directly servicing project data needs for clients.</td>
</tr>
<tr>
<td></td>
<td>undertakes project work and responds to reports on environmental pollution.</td>
<td>C1 15%</td>
<td>Chief &amp; external Chemist</td>
<td>recovery</td>
<td></td>
<td></td>
<td>A program of installing new generation electronic data loggers has commenced.</td>
</tr>
<tr>
<td></td>
<td>Maintains water quality database.</td>
<td>Com. 70%</td>
<td>Senior Chemist &amp; client activities</td>
<td></td>
<td></td>
<td></td>
<td>Data processing is prioritised towards project stations and areas with highest short term development potential. There is a large backlog of unprocessed data.</td>
</tr>
<tr>
<td>Data Collection</td>
<td>Routine collection of hydrometric data including river heights, rainfall, g/water levels, water quality. River gauging (flow measurements) Some editing &amp; processing of data.</td>
<td>B 10%</td>
<td>NT Govt Project Managers</td>
<td>Full cost - 13</td>
<td>recovery</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>C1 40%</td>
<td>Various external clients</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Com. 50%</td>
<td>With Water Quality</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Computation</td>
<td>Digitising and computerising field data so that it is available in summary format including conversion to quantity where stations are &quot;rated&quot;.</td>
<td>B 20%</td>
<td>Various Data collection</td>
<td>Full cost - 9</td>
<td>recovery</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C1 60%</td>
<td>Data users</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Com. 20%</td>
<td>Generally users Data Computing</td>
<td></td>
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<tr>
<td></td>
<td>Services private sector</td>
<td></td>
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<tr>
<td>Instrument Workshop</td>
<td>Provides direct support to data collection sub-section in maintaining/repairing/calibrating instrumentation</td>
<td>B 10%</td>
<td>Data collection</td>
<td>Data collection</td>
<td></td>
<td></td>
<td>Costs are incorporated into unit charge for operation of project stations.</td>
</tr>
<tr>
<td>Construction/Maintenance</td>
<td>Provides construction and maintenance service to data collection, Includes minor repairs, painting desilting, access, clearing, &amp; construction of weirs &amp; gauging facilities.</td>
<td>B 10%</td>
<td>Data collection</td>
<td>Data collection</td>
<td></td>
<td></td>
<td>Costs are incorporated into unit charge for operation of project stations. Construction of new stations is normally undertaken by contract.</td>
</tr>
</tbody>
</table>
NOTES ON TABLE 2

1. Functions described reflect the organisational components of the Division however work outputs are dependent on a high degree of internal interaction.

2. The functions and staffing levels are for the northern region only. Heads of discipline have a NT wide role in standard setting, training, coordinating resources, and technical reference. The southern region structure though similar, is smaller, with only minimal data processing and laboratory functions.

3. The corporate management team comprises the Director; Branch Heads of Hydrology, Technical Services, Laboratories; Functional heads for surface water and groundwater; with the Water Resources Superintendent Southern Region as an observer.

4. Overall policy development, planning and coordination is through the Director and the corporate team.