



Government of **Western Australia**
Department of **Mines, Industry Regulation and Safety**
Resource and Environmental Regulation

GUIDELINES

Geothermal guideline – criteria assessment

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WA geothermal guideline – criteria assessment

This document sets out the criteria to be followed in assessing applications lodged under the *Petroleum and Geothermal Energy Resources Act 1967* for the award of geothermal exploration permits and geothermal drilling reservations. This criteria is also applicable to renewal applications and the assessment for grant of geothermal special prospecting authorities where an acreage option is sought for the right to apply for a geothermal exploration permit or geothermal drilling reservation.

In any submission for the award of a geothermal exploration permit, applicants will be expected to take into account all relevant information, such as environmental protection and heritage related issues, which could impose access restrictions.

An applicant must first satisfy the Minister of its capacity to undertake the proposed work program, particularly:

- The adequacy of financial resources and technical expertise available to each applicant. This should include evidence of the applicant's ability to raise funding for exploration purposes where implied.
- The likelihood that the applicant will continue to have access to sufficient resources to meet the requirements of the proposed work program as well as other commitments previously entered into in other permit areas.
- The future viability of any consortium lodging an application, including evidence that a satisfactory Joint Operating Agreement has or can be reached.
- The applicant's past performance in other geothermal exploration areas in Australia or, if relevant, elsewhere.

NOTE: When assessing a company's financial capabilities, the following details and any other additional documents (where available) are to be provided as a way of meeting the Criteria of Assessment:

- cash flow statement
- current annual report and or quarterly/half yearly reports
- surety of capability
- projected earnings or production and earnings forecasts
- past exploration experience in raising capital and completing exploration
- description of current operations
- prospective debt and equity raising
- letter of guarantee of capital

Assessment Criteria

The basic objective in awarding any geothermal exploration permit is to select the work program bid most likely to achieve the fullest assessment of the geothermal energy potential within the permit area, recognising the essential role of wells in the evaluation of geothermal energy resources. Work programs proposed in bids must significantly advance the exploration status of the area. Work program bids will be assessed taking account the criteria list below and, therefore, must be clear and concise in description.

The criteria for assessment of applications are as follows:

- The number, target depth and timing of wells to be drilled, provided there is an adequate technical rationale for siting the wells.
- Drilling of shallow (approximately 400m) wells should be backed by sound technical rationale.
- The basic data to be collected in wells such as: lithology (cuttings, wireline logs, coring), temperature data (maximum bottom hole or temperature log, time after circulation stopped), fracture identification (if relevant), stress field data.
- The amount, type and timing of surveys or studies to be carried out and/or accessing existing non-exclusive data.
- Other surveying, data acquisition and reprocessing to be carried out.
- The extent to which the applicant's technical assessment supports the number and conceptual targets of wells proposed in the application.

- Pre-purchased, non-exclusive data will not form part of the work program, but any interpretation of that data will be taken into account in assessing the relative merits of the work program proposed. Non-exclusive data proposed to be purchased after the award of a permit may form part of the work program provided that this does not disadvantage a competitor who has purchased the data prior to bidding. Work considered equivalent or inferior to work already carried out will not be considered an advance of exploration.

Process for Assessing Applications

Applications received will be assessed against the selection criteria by a panel of officials within Western Australia's (WA) Department of Mines, Industry Regulation and Safety (DMIRS). The panel will prepare a report for the Minister containing recommendations as to the winning bid.

Applications will be assessed on the basis of the information contained in the written applications together with any additional information requested by the Minister, which should also be submitted in writing. Applicants may be invited to attend an interview with the Panel responsible for advising the Minister. Clarifying information provided during the interview will also be taken into account.

It should be noted that the composition and timing of the work program proposed in the original application as part of the competitive bidding process cannot be amended by the provision of additional information or through the interview process.

Consideration of Past Performance

The Minister may take into consideration the applicant's past performance in relation to meeting work commitments, heritage management issues, and environmental management history in other geothermal exploration areas in Australia or, if relevant, elsewhere. This may occur even where the applicant's proposed work program is the highest submitted.

Particular consideration is given in situations where one or more of the applicants were participants in permits that had been cancelled because of default in meeting work program commitments.

Any prior cancellation would be taken into account and the circumstances of the default would be relevant, however, consideration would generally be given to cancellations occurring in the previous five years. Where this was deemed a significant decision making factor in the offer of a permit, the applicants would be given the opportunity to establish that the earlier failure was not relevant to the current situation and that default would not occur in the current application.

A record will be maintained of companies that have defaulted on work program commitments.

Refusal to Grant a Permit

Applicants should note that geothermal legislation provides that the Minister may refuse to grant a permit to an applicant. While the Act does not specify the grounds for refusing to grant a permit, they may include:

- The work program bid is inadequate to significantly advance the geothermal resources potential of the area.
- The work program bid is not supported by a sound technical assessment.
- The Minister is not satisfied that the applicant possesses the financial or technical capacity to complete the work program bid.
- The Minister is not satisfied that, on the basis of past performance, the applicant will comply with permit conditions.
- In a competing situation where the work program proposed is inferior to that of another capable applicant.

Minimum Acceptable Work Program Bids

A geothermal exploration permit will not be offered to an applicant unless the applicant can satisfy the Minister of its capacity to undertake at least the first two years of the proposed work program and that program is considered likely to significantly progress the assessment of the geothermal energy potential of the permit area.

At least one well would normally be expected to be proposed within the six (6) years of the permit term.

The minimum acceptable bid for an area will vary depending on the size of the area and its perceived prospectivity. Generally, it would be expected that the minimum guaranteed work program would include at least a significant amount of new geoscientific surveying and/or wells. However, where extensive non-exclusive geoscientific data is available over an area, it would generally be expected that the minimum guaranteed work program would include at least the licensing of a significant amount of the data and/or wells.

The minimum acceptable bid must be credible, coherent and supportable. The early elements of the program should be sufficient to enable the later elements to proceed. If there is no current drillsite identified, there must be sufficient phased geoscientific work to enable a drillsite to be identified somewhere in the permit area.

Applicants should note it is mandatory that the minimum work program proposed in each year of the term of the geothermal exploration permit is stated precisely to avoid any ambiguity. The proposed work programs should not include contingent work.

CRITERIA FOR ASSESSMENT OF APPLICATIONS FOR THE AWARD OF GEOTHERMAL DRILLING RESERVATIONS

Geothermal Drilling Reservations (GDR) are short-term titles (up to 3 years) designed for the purpose of progressing the earliest possible drilling of known prospects.

Generally, all the requirements for assessment of a Geothermal Exploration Permit apply to a GDR but with the number and timing of the wells being predominant.

Specifically, a GDR application must include the following at a minimum:

- The number of wells to be drilled.
- Detailed information on the proposed drill site(s).
- A statement as to the approximate time for completion of well(s).
- A statement as to the size and configuration of the potential geothermal energy resource.
- A geological prognosis of the well(s).
- Details on the availability of an appropriate rig and evidence of preliminary contract negotiations.
- A statement as to understood weather windows and restrictions.
- A statement outlining native title and environmental conditions to be observed.
- Copy of the applicant's in date Certificate of Insurance detailing the level of cover for Control of Well, Property Damage and Third Party Liability.

The area of the GDR will be the number of blocks determined necessary to capture the identified resource and the number of drill site(s). The term of the GDR will be dependent on the number and timing of the well(s) and is at the discretion of the Minister.

Government of Western Australia

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8.30am – 4.30pm

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