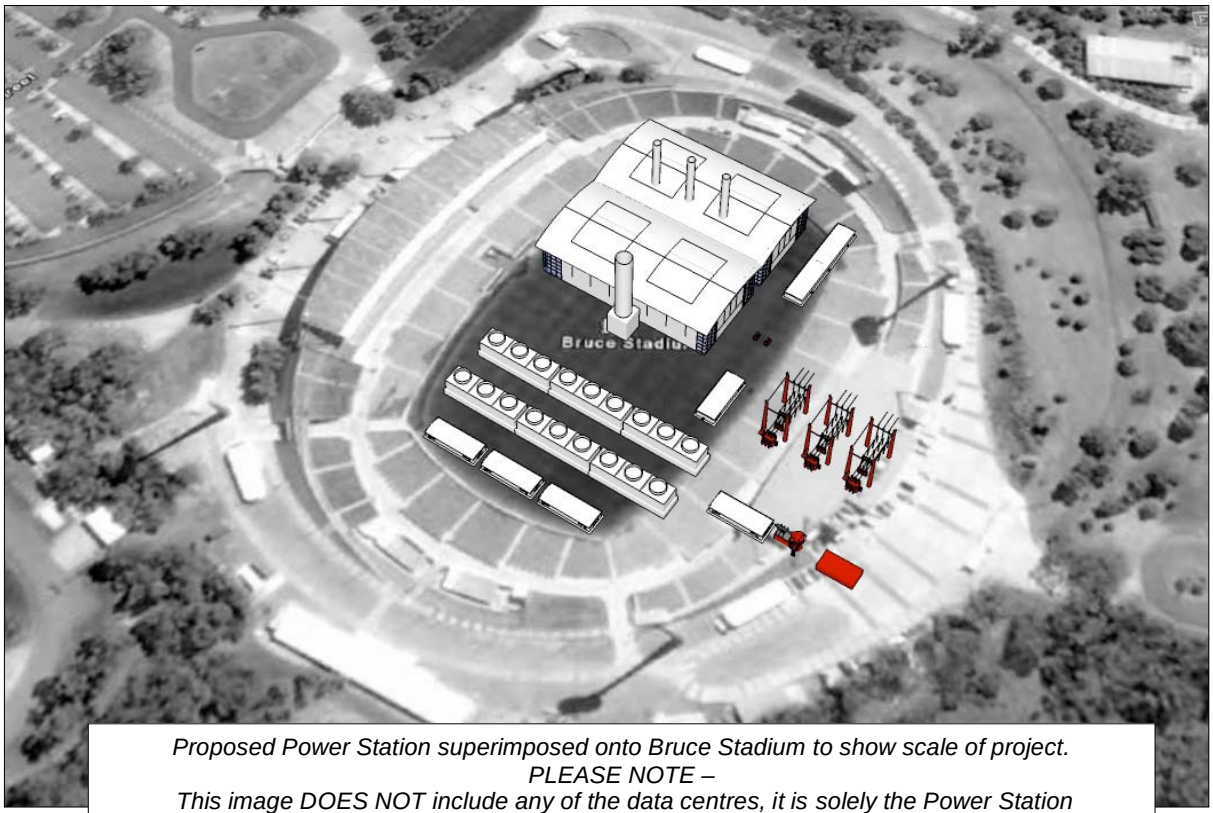
Submission of
Canberrans for Power Station Relocation Inc (CPR)

Preliminary Assessment of the Amended Application Data Centre and a Power Station

Titled ACTEWAGL - Canberra Technology City – Part Block 1671 Tuggeranong

Application No. 200704152



Proposed Power Station superimposed onto Bruce Stadium to show scale of project.
PLEASE NOTE –
This image DOES NOT include any of the data centres, it is solely the Power Station

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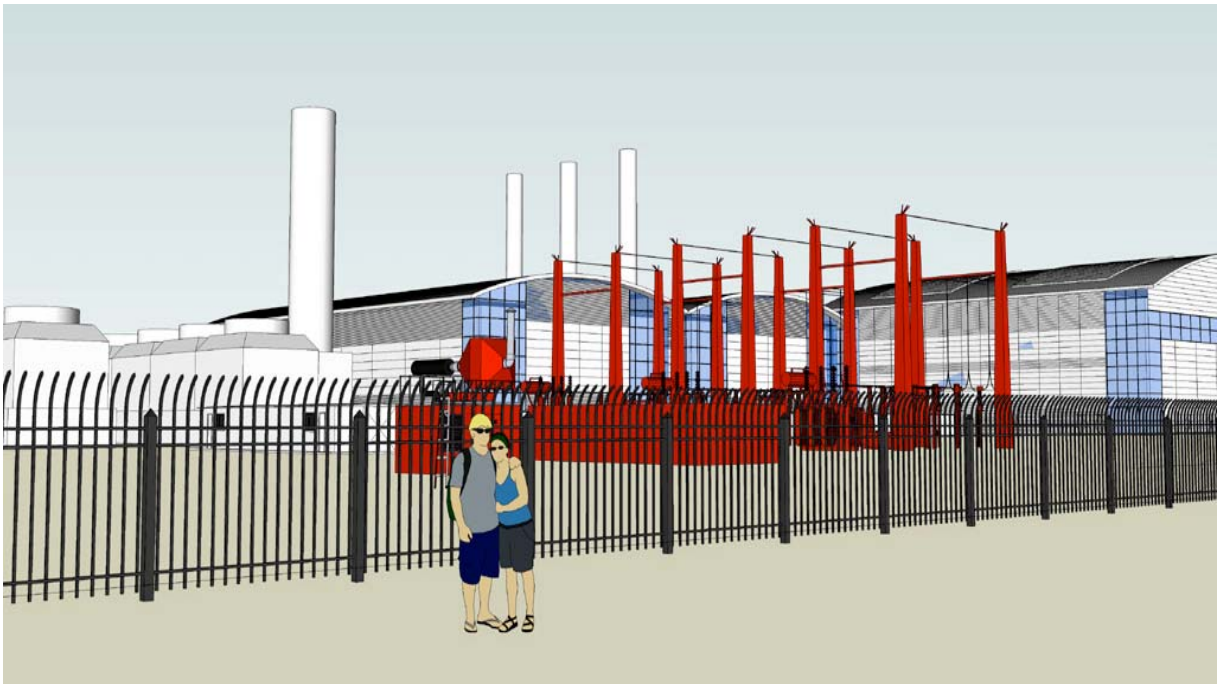
Submission

We submit, for the reasons contained hereafter, the application No. 200704152, be rejected by ACTPLA.

In the alternative we request a full independent expert environmental impact statement to be, on completion, incorporated into a full cost/ benefit analysis delivered as part of an Inquiry as per division 4.4 of the Land (Planning & Environment) Act 1991 s 138(2)(a)(ii) to determine exactly how the community will benefit in relation to the cost the community will bear.

It is unconscionable that an application of this size, significance and potential pollution should not require at the very least, an Environmental Impact Statement (EIS).



Introduction

This submission is compiled for and on behalf of Canberrans For Power Station Relocation Inc (CPR).

CPR is a voluntary community based group, with members from across Canberra, created to address community concerns surrounding the proposal to build a gas fired power station close to residential homes.

This submission should be read in conjunction with the first submission from CPR, filed with ACTPLA on 27 May 2008, which was prepared in response to ACTEWAGL's original application filed by them on 26 March 2008.

CPR submits this proposal, like the first, should be rejected by ACTPLA. It is unreasonable and immoral to allow the building of a gas fired power station so close to established residential homes.

It seems unnecessary now that ACTEWAGL have announced they are to build a much larger 500MW power station in Williamsdale and therefore this data centre could reasonably moved next to this power station, if approved, in Williamsdale.

To allow a power station to be built within 660 metres of established homes, which will significantly and consistently add a great deal of pollution to Tuggeranong and Woden, is more so unnecessary when considering this power station is proposed to purely service the needs of a privately owned consortium.

This report, in tandem with the supporting media campaign run by the applicant, does not in real, quantifiable, or consistent terms, detail any benefits purported to flow to the community from this proposed development. Job creation estimates have varied wildly from 600 to 50 and none of these estimates, apart from those which relate to the brief construction phase, are at all guaranteed or have been accompanied by an analysed breakdown.

Even within the area of construction, we note the proponents themselves state the vast majority of construction, of warehouses, office modules and machinery, will have already been completed out of state and over seas.

Whilst we do not suggest that because of the skill shortage, no new business should commence in the ACT, we do find it somewhat inconsistent that the only direct benefit this proposal now purports to bring to the ACT community is an unverifiable job need creation.

We quote the ACT Chamber of Commerce and Industry (ACTCCI) on ABC News on 17 June 2006 "*We need just about every [skill]. There is not one area there is not a shortage in"* and on 5 June 2008 in the Canberra Times "*There is an estimated shortage of 10,000 workers across the ACT estimated to double over the next 3 years*".

In respect to the diversification of our economy this project will bring - we refer to 29 May 2008 Canberra Times reporting on Ms Julia Gillard opening of another privately owned data centre in the Hume Industrial Estate "*Canberra already has hundreds of data centres, big and small – nobody knows how many".*

With the announcement the Canberra Power-Supply power station is to be moved to Williamsdale, this application for a power station and data centre is significantly altered in meaning and purpose. Whilst the peaking power station was attached to the data centre, there was merit that this application at least serviced a need for more power to Canberra. There was some community benefit and the government and ACTEW's involvement in that application was at least marginally understandable. The site remained inappropriate but there was an argument for Community benefit.

We are clear that what remains is a private consortium driven by ACTEWAGL and strongly supported by Government. We are also aware that should another private consortium have attempted to build this project without the guiding hand of the current government and ACTEWAGL, they would not have advanced nearly so far, had access to internal government papers or been allowed such excessive leeway with the issue of an application as opposed to an alteration - as has been afforded to Technical Real Estate.

The community has noticed this disparity and is left asking the questions “where is the level playing field for potential developers in the ACT?” and “Why is ACTEW still so determined to secure this site, for this consortium, when their main profit driver is now in Williamsdale?”

The only conclusion we can draw is in line with the Hume Planning Study (annex H) – an internal government scoping document, we, the community, only gained access to on the back of *Freedom of Information* applications made by the Opposition Party in respect of this matter, but which has been available to and quoted by, the private consortium CBR Ellis in their report. We note that Mr Tom Percival of ACTPLA in his email response dated 1 May 2008 to Ms Katherine Hicks of CBR Ellis in her request for an electronic updated version of this document (annex G) stated “*..this study was prepared as an internal Government report to inform further work, so I need to ask what capacity you are requesting it in..”*

We conclude after reading the HPS that ACTEWAGL’s continued interest in pushing this particular development through lies not with this development but with future industrialisation of the surrounding Broadacre land. As detailed later in this submission – it does not make economic sense for ACTEWAGL to provide this level of infra-structure service for this proposal and not wish to extend it onwards across the entire broadacre site. If we are wrong in this assumption, we are wrong because, like the rest of the community and unlike some private consortiums, we do not have access to internal government documents setting out plans for the land and we are not included in consultation or discussion in respect of where and how the land in our Territory is being used, developed and promised away.
This application, like the first, lacks any cost benefits analysis showing how, other than vacuous, unquantifiable, motherhood statements, there will be any benefits flowing to the community.

It will pollute the environment. The cost to the community and the environment will be tangible and last for generations. All the benefits of this power station will flow to the privately owned consortium.

In keeping with the first application’s supporting documentation too, this submission will show the proponents have circumvented detailed, accurate and independent reporting in order to meet their own imposed deadline, they say, for attracting potential investors. The community and the process, has been asked in effect to ignore flaws, avoid detailed inspection and trust their obviously flawed reports in order to secure the consortium a commercial head start on their rivals. This flies directly in the face of the precautionary principle, which we believe should be strenuously and strictly applied to this process. We will address this in the body of the submission.

For the record we dismiss totally the arguments put to the Community by Technical Real Estate and the ACT Chamber of Commerce in their full page advertisement in the Canberra Times 28 June 2008.

We state the Community should not bear the cost of giving a private consortium a head start over another private consortium, just because the proponents are working with ACTEWAGL and with the tacit support of the government. If the proponents need to be sited next to a power station in order to make their proposal more attractive to potential investors than any other new data centre springing up in Canberra, we suggest they site it next to Williamsdale.

The reports attached in support of this application are either flawed or, as in the case of the Heritage Report, conclude completely misleading and erroneous conclusions to what the report actually says. We will show within this submission a contrary conclusion to reports and investigations which support our submission this application be rejected by ACTPLA.

At the very least the applicant reports need, a full independent environmental impact statement and this should be attached to an Inquiry into this application with a ministerial direction to consider all aspects of this proposal, environmental, health, economic and the future of this Broadacre land.

We are keenly aware that whilst the HIS was an internal government scoping document merely intended as a reference for possible future plans, should this application be allowed to proceed, the HIS plan to industrialise the entire broadacre site along Mugga Lane to the Monaro Highway will instantly, without meaningful community consultation, without addressing all the concerns put to this report by government agencies - become a reality.

We are greatly concerned that this possibility exists, instantly denying Canberrans the voice and forum to express how they want their Territory land managed, not how certain individual businessmen and one or two government officials determine the land should be divided up.

We look to ACTPLA to set this right and to consider this submission as expressing the views and wishes of the wider community of Canberra in relation to showing ACTEWAGL, ACTPLA and the government how and in what way we wish our land to be managed and used and our environment protected

Health impact study

We do not recognise the recently announced "Health Impact Committee", to be set in place by the Minister for Health Katy Gallagher. This committee is a non-statutory committee with no particular powers. We note contrary to the suggestion that a member of community sit on this committee, no one from CPR has been approached in this capacity or consulted regarding the concerns or nature of this committee.

If this committee was able to achieve what it says it can achieve – why was it not set up within days of the first application for a 210mw power station, being accepted as an application in ACTPLA?

If there is an identified need for such a Committee we ask that an Inquiry is instigated under division 4.4 of the *Land (Planning & Environment) Act 1991* s 138(2)(a)(ii).) or alternatively an EIS with a ministerial requirement that it cover the health impacts as well as the social impacts (eg the effects on or actually moving health facilities).

The development of a powerless health committee begs the question, why is the government not using the statutory processes available for a detailed investigation of environmental impacts?

We submit that having identified a need for detailed health assessments attached to the potential damaging affects on the health and well being of residents this power station will incur, that an Inquiry is instigated under Division 4.4 of the *Land (Planning & Environment) Act 1991* s 138 (2) (a) (ii) or in the alternative an EIS with a ministerial requirement that it cover the health impacts as well as social impacts

Issue concerning altered application

Whilst the body of this submission addresses the details and reports attached within the "amended" application dated 3 June 2008, we do so after first setting out our objections to this application being accepted by ACTPLA as an amendment.

Application amendment

We believe this second application was accepted by ACTPLA as an amendment in order to pacify the proponents need to have this matter dealt with in haste. We, the community, have suffered a detriment by this decision and are directly negatively affected by this surprising conclusion.

We consider this decision unfair and to date ACTPLA have been unaccountable for this decision. We believe that ACTPLA erred in law in defining this new application as an "amendment" and failed the community in ACTPLA's duty to exercise its powers under the Act within a fair, accountable and open decision making process.

On ACTPLA's web site, under frequently asked questions, you state:

"Why is this treated as an alteration to the previous DA and not a new DA?
The changes are treated as an alteration because a decision had not been made on the current DA before the alteration was lodged and it has been determined by the Authority that the alterations proposed would result in a proposal that has less detrimental affects than the original."

Whilst we accept that given the DA was current, this allowed for the alteration being lodged, it is the acceptance of this as an alteration we object to.

We would like clarification and answers from ACTPLA to the following:

1. Who in ACTPLA "determine that the alterations proposed would result in a proposal that has less detrimental affects than the original"?
2. What guidelines did they use?
3. What was the scale of detriment ACTPLA attached to the original application?
4. Where and upon whom, did this detriment fall?
5. What scale of detriment do you use when determining whether an application should be accepted as an alteration or be forced to re-commence as a new application?
6. Where is this scale of detriment derived from?
7. How can the public gain access to view this scale?
8. Is this ACTPLA's usual method of determining what falls within the definition of an alteration?
9. Is this the same method used to determine all applications proposed as alterations, or is this unique to this application and if so why?

Had ACTPLA not accepted this application as an amendment these proponents would have had to file a new application under the *Planning and Development Act 2007*, rather than remaining under the *Land (Planning & Environment) Act 1991.*

The new Act causes a unique consequence in this instance, to the decision determining an alteration or not. Such a consequence however should not have been taken into account when determining this question. To do so would have the affect that ACTPLA allowed the application of the new Act to alter the meaning, intent and working of the old Act.

ACTPLA should have therefore determined whether this new application could be filed as an alteration using the same methods they had used in all other previous applications for an alteration made under the old Act.

We would suggest this was not the case. We would suggest that ACTPLA has taken into account the consequences to the proponents had this recent 6 June 2008 application, not been allowed to be an alteration and accordingly applied such a broad and unusual definition of “alteration” it makes a mockery of having the word “alteration” in the Act at all.

We refer you to two NSW cases which negate the use of such a broad definition of “alteration”:

Ebsworth v Sutherland Shire Council [2005] NSWLEC 603

Pepperwood Ridge Pty Ltd v Newcastle City Council [2007] NSWLEC 19

We submit that ACTPLA review its decision to accept this application as an alteration and in the light of the radical changes between this application and the previous application, ACTPLA request the proponents re-submit a new application under the *Planning and Development Act 2007*

An environmental impact statement

Filing such an application under the new Act would have triggered an automatic Environmental Impact Statement. As an absolute minimum alternative to rejecting this application we ask for a full independent environmental impact statement to be completed as part of a full inquiry into every aspect of this application.

For your benefit the requirements of an EIS under the new 2007 Planning legislation are set out in regulation 50 (*Planning and Development Regulation 2008*).

Generally speaking it requires an EIS to include the following:

(a) a non-technical summary of the EIS, including a summary of its recommendations;
(b) a glossary of technical terms and any abbreviations and acronyms used in the EIS;
(c) a description of the proposal, including various land descriptions, descriptions of leasing details, the purpose for which the land may be used, the proposal's objectives, relevant time frames, details of alternatives considered etc;
(d) a description of the EIS process, including—
(i) any statutory approval obtained or required for the proposal; and
(ii) the base information used for predicting each potentially significant environmental impact identified in the scoping document for the EIS; and
(iii) the criteria used for assessing the significance of each environmental impact and the performance of any alternative to the proposal considered under paragraph (c);
(e) a statement about the proposal's compatibility with the principles for environmental sustainability in the territory plan, volume 1, part 2.1 (Statement of Strategic Directions);
(f) for each potentially significant environmental impact identified in the scoping document for the development proposal—
(i) an identification of the relevant environmental values; and
(ii) an identification of the findings and results of any environmental investigation in relation to the land to which the proposal relates; and
(iii) a description of the effects of the environmental impact (including cumulative and indirect effects) on physical and ecological systems and human communities; and
(iv) an analysis of the significance of the potential environmental impact of the development; and

(v) a statement of the approach proposed to be taken to the environmental management of the land to which the proposal relates, including any proposed impact prevention, mitigation or offsetting measures to deal with the environmental impact of the proposal (which may be set out in a management plan for the land);

(g) a description of consultation undertaken for the EIS;

(i) the EIS's recommendations.

Assuming the bilateral agreement is signed between the ACT and the Commonwealth for matters which are of a 'national environmental significance' in this case the likely relevant matters under the Environmental Protection Biodiversity Conservation Act (EPBC) would be that the proposal may have an affect on archaeological sites of significance, threatened species and ecological communities and listed migratory species then additional measures which would need to be addressed in an EIS are set out in Schedule 4 of the EPBC Regulations 2000.

We submit that in reference to requesting an EIS, the EIS is always an alternative to this application being rejected in the first instance. By EIS we refer to a full, independent, expert conducted environmental impact statement as detailed above

The precautionary principle

We draw your attention to section 9 of the *Planning and Development Act 2007* and the precautionary principle. This principle, which has validity independent of the Act by virtue of the Rio Declaration, is defined to mean 'that if there is a threat of serious or irreversible environmental damage, a lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation'. A similar definition based on the UN 'Rio definition is provided for in s391(2) of the *Environment Protection and Biodiversity Conservation Act*– which provides that the Commonwealth Minister must take into account the precautionary principle in making certain decisions. What this principle states is that uncertainty about potentially serious hazards does not justify ignoring them. Tied to this is the idea that if an activity, such as the building of a power station, raises a threat of environmental harm then caution should be adopted in making a decision without the full scientific facts.

In the context of ACTEWAGL's application, we say, there is insufficient or inconclusive preliminary scientific evaluation as to the effects of the building of the power station on the environment and human health. This is particularly important given this activity may result in potentially irreversible harm in dangerous emissions and biodiversity destruction. In this case and cases like this, such activities should not be undertaken without the proponent demonstrating to a high scientific standard that substantial harm will not result. We hereby rely on the precautionary principle and put those charged with making decisions around this application to be cautious when assessing the potential health or environmental harms of the proposal in the absence of full scientific facts. Where there is doubt, given the potential consequences to proceeding, this application should be rejected pending further, independent, dependable and accountable scientific and accurate studies completed on all aspects of potential harm.

We therefore submit that in this instance the precautionary principle be applied and this application be suspended pending a full independent environmental impact statement which will determine the full extent of the environmental damage this proposal will inflict on the environment

Increased community concern

regarding government interference, consultation and accountability in this process

Since this proposal first came to the community's notice, the Community has been struck by the lack of transparency, consultation and accountability from the proponents, government and government agencies. This has had tremendous detrimental effect on the community's support or belief in either the honesty or the integrity of the proponents.

It may assist if we briefly set out a few of the most obvious gaps which remain unaddressed:

ACTPLA states on their web site:

*"The notification included **a sign**, **newspaper advertisement**, **letters to immediately adjoining neighbours** and a Notifiable Instrument on the ACT Legislation Register. Copies of the PA and DA were available on the ACTPLA website, at all ACT Libraries, and on request at the ACTPLA Dickson Customer Service Centre."*

The sign – we are sure you will accept was a small yellow sign, facing onto a rural road, without a pedestrian pathway, which can only be seen by the passenger of a car facing to the left, as the car sped past. (Please see attached photograph at annex A)

The newspaper advertisement- CPR has had the benefit of access to the documents acquired by the Liberal Members of the Legislative Assembly under the *Freedom of Information Act*.(FOI) we note from these, that the newspaper advertisement went into the Canberra Times via an email from ACTPLA dated 14 April 2008 (See annex B).

Your alert of this matter to Tuggeranong Community Council (TCC) via a letter from Nadia Chami dated 11 April 2008, (see annex C) prompted the TCC to request ACTEWAGL attend an information night on 28 April 2008. Whilst we are grateful that ACTEWAGL agreed on this occasion to meet the community, this was arranged at the request of the TCC not ACTEWAGL.

Earlier newspaper articles referred to a "proposed data centre in Hume" and did not mention the true size or true location.

The letter - We note amongst the FOI documents a draft form letter informing the "immediately adjoining neighbours" of this proposal. (see annex D). No members of CPR, their neighbours or the people approached in the adjoining addresses received any such letter.

The addresses most directly adjoining this application are :- Jackie Howe Crescent, Bracker Place, Goldsbrough Close, Beggs Place, Ebsworth Close, Kater Close and Starritt Place - no one approached from these addresses ever received any notification from ACTPLA or ACTEWAGL of this proposal.

Other "consultations"

The ACT government, the outgoing CEO of ACTEWAGL Mr John Mackay, and the incoming CEO of ACTEWAGL Mr Michael Costello, have stated they have consulted with the community in respect of this application.

John Mackay has stated on a number of occasions, most recently at the reconvened ACT Legislative Assembly Select Committee on Estimates, that ACTEWAGL consulted with the community prior to filing its proposal by "writing to the Karrilika Community Group". This group, such as it was, disbanded in 2004.

Michael Costello stated that ACTEWAGL has organised community consultation in the form of information sessions, April 28th and May 17th both at the Tuggeranong Vikings Club to let the community know about the previous application and again on 16th June to let the community know about the "altered" application.

The April 28th meeting was in fact convened by the TCC. Due to a, we would say justifiably, angry community being informed they had less than a week left to put in submissions, the government extended the deadline to 27th May. The second information session was held on 17th May from 10am to 3pm in which boards containing simplified pictures were placed to give the community an idea of how the proposal will look.

Michael Costello, John Mackay and Chief Minister Jon Stanhope have all, at various times, stated that this second application, filed on June 6th, is proof of the proponents listening to the community and hearing their concerns – as a result they have changed their proposals to this new application.

Please see annex E where we draw your attention to the date Mr Brooke O'Mahoney signed the application for an alteration to this application being 3rd May 2008.

Below is an article printed in the Canberra Times on May 31st 2008:
"Chief in dark on gas plant backflip - ActewAGL's incoming chief executive, Michael Costello, shelved a prized gas-fired power station to back-up Canberra's electricity supply without telling the project's champion, John Mackay.....Mr Costello said the consortium was told three weeks ago [around 9th May] a 100MW peaking station was commercially unviable. He said the firm spent weeks perusing other options before making the announcement to scrap the peaking station on the Tuggeranong site and scale down the data centre. ''It's too small. It has to be 350 to 450 [megawatts] so that site was not suitable whether there were protests or not,''Mr Costello said….."

We tender this as proof that the proponents have never consulted, nor listened, nor indeed cared what the community concerns have been and indeed remain in relation to this power station. We therefore have no faith in the application stating it will not develop this power station further or run all three turbines together. We believe that should it become economically tempting for the consortium to develop the power station or run all three turbines – they will.
You will recall that up until 27th May 2008, ACTEWAGL and the government, continued to promote, support and recommend the original proposal to the people of Canberra, despite its obvious enormous pollution and despite, for the vast majority of that time, ACTEWAGL being aware that it was not viable.

It is worth noting that during this time, when ACTEWAGL knew its application would not proceed:
- ACTEWAGL continued to spend money on advertising and promoting this application;
- ACTPLA continued to administer the original application;
- Ms Gallagher as Minister for Health set her staff to develop plans to re-locate a newly refurbished, existing health facility as it was incompatible with the power station (Annex F);
- The Federal Government continued to advertise this, and the second site in Belconnen, in magazines and financial literature throughout Europe; and,
- The Canberra community continued to work hard to understand, analyse and respond to this complex proposal.

On the announcement of the down-scaling, continuing to the present, the community has been warned, in a manner akin to barely veiled threats, by Mr Stanhope, Mr Costello, Mr Mackay and the various business leaders from the ACT Chamber of Commerce that the results of the community continuing to object to this power station will be that future developers will refuse to invest in Canberra.

This is not a scenario that engenders trust.

We submit that this proposal merely represents the "thin end of the wedge" and ask that ACTPLA reject this application on the basis that the proponents have shown themselves, within this process, to have behaved without integrity, without transparency and without meaningful consultation with the community. This should negate them from being trusted with custodial responsibilities over Territory land

If this preliminary assessment was lodged under the 2007 Act, an EIS would be automatically required.

If ACTEWAGL had submitted their development application after the 31st of March, the project would be on the "Impact Track" system and according to Schedule 4, EIS would be the appropriate level –

Part 4.2 Development proposals requiring EIS—activities

(2) proposal for electricity generation works or distribution corridor, including a proposal including all or any of the following:

(a) transmission line corridor construction, or realignment works, outside an existing corridor that are intended to carry transmission lines with a voltage of 132kV or more;

(b) a hydroelectric facility that requires a new dam, weir or inter-valley transfer of water and that will generate 1 megawatt or more of electrical power;

(c) a wind farm that will consist of 5 or more turbines or will generate 5 megawatts or more of electrical power;

(d) an electricity generating station that will supply 30 megawatts or more of electrical power;

As you know, this proposal contains 132kV transmission line from the site to the existing lines to the South. Therefore, under the new legislation, this proposal instantly requires an EIS.

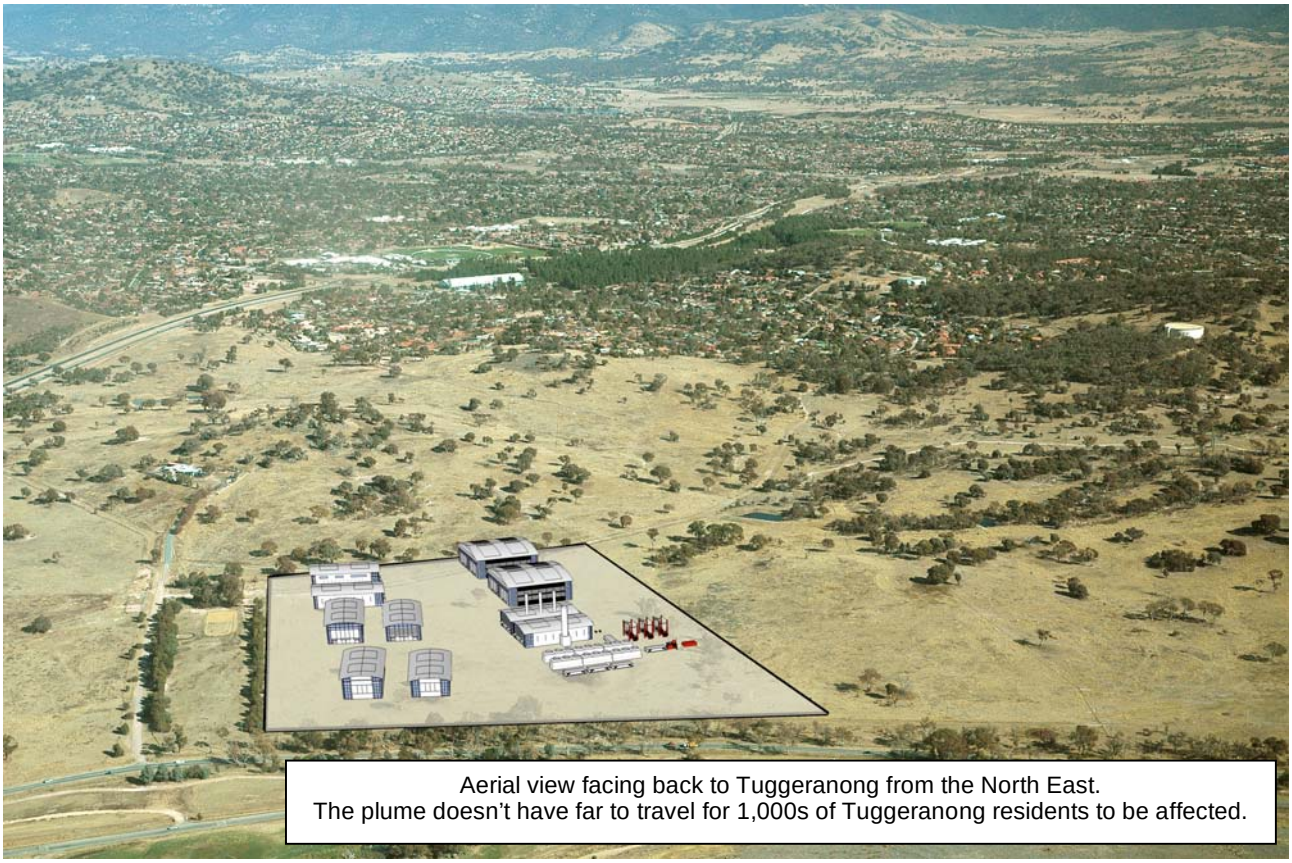
Despite what the proponents have declared, this proposal is a 30 megawatt facility at its minimum. In fact, there is no technical reason why the 3rd Titan couldn't be made operational within 6 minutes (Source – Solar Turbines website) making it capable of 45 megawatts. However, even at 30 megawatts, an EIS is required under the new legislation.

We find it astonishing that this Preliminary Assessment has been considered a variation under the 1991 version of the Act.

Some examples of what has changed:

- The site is smaller
- There are fewer buildings
- **There a 2 new large buildings (Power Station)**
- The power station has a smaller generation capacity
- The power station is **completely redesigned**
- There is now a "secure holding area"
- Some parking has changed
- The Major Utility component has been removed (Peaking Power Station)
- **The backup power supply to Canberra has been removed**
- **The business model has changed to commercial data centres only**
- Some of the roads have been re-routed
- The gatehouse has been moved
- The fencing is different
- Most of the documentation is different
- Most of the plans are new
- The Plume Study is using different methodology
- Power, gas and water requirements for the site have changed
- There are now 18 cooling towers
- **It's only a $1 billion project!**

In the context of the above, and a massive reduction of $1 billion in capital, we seriously have to question the term “variation”. CPR believes that this is in fact a new proposal lodged on 3rd June 2008. This means that this proposal should come under the Planning and Development Act 2007. Consequently, an automatic EIS should be required.

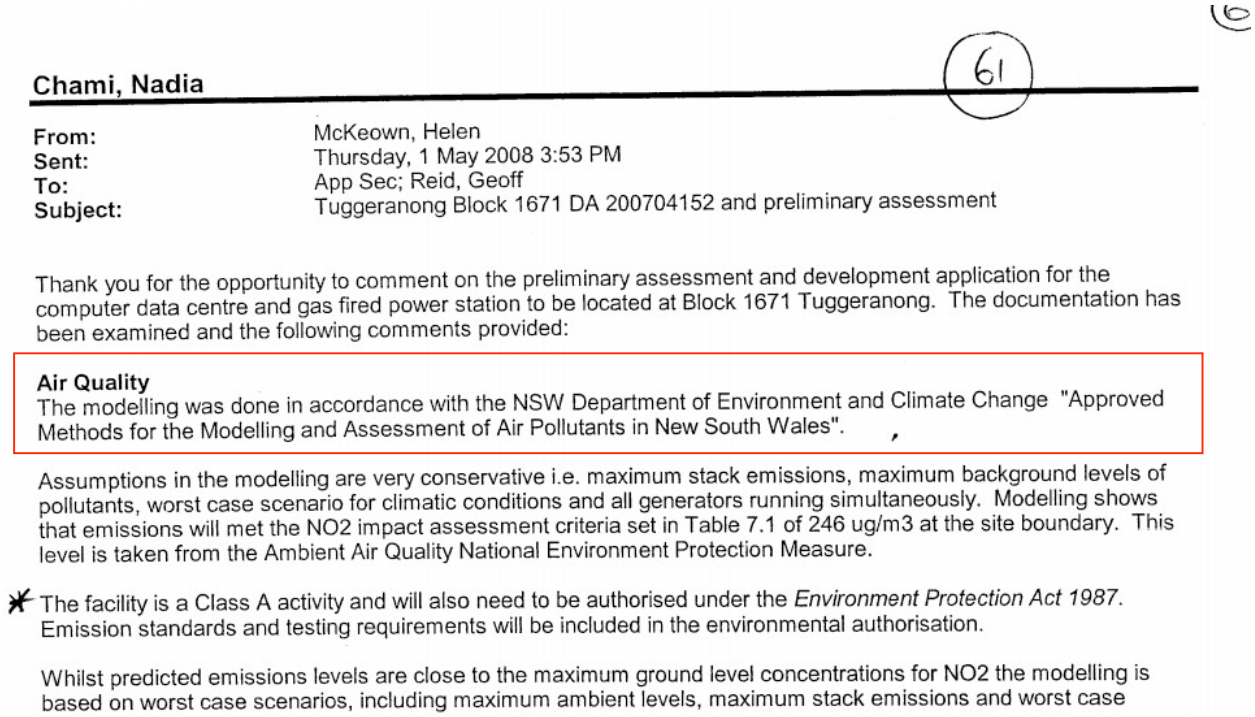


Aerial view facing back to Tuggeranong from the North East.
The plume doesn’t have far to travel for 1,000s of Tuggeranong residents to be affected.

The first version of this development application was seriously flawed

The Plume Study contained within the first version, claimed that it was carried out in accordance with the NSW EPA document "Approved Methods for the Assessment of Air Pollutants in New South Wales" however that was proven not to be the case. Specifically, AUSPLUME V6 was used where it should have not been and it was picked up by CPR as well as many other members of the community. This error led to several other assumptions that were incorrect.

Of great concern is that Environment ACT did not pickup this serious error and took the statement/s to be fact. This would have had serious health implications for Canberra.



Chami, Nadia 61

From: McKeown, Helen
Sent: Thursday, 1 May 2008 3:53 PM
To: App Sec; Reid, Geoff
Subject: Tuggeranong Block 1671 DA 200704152 and preliminary assessment

Thank you for the opportunity to comment on the preliminary assessment and development application for the computer data centre and gas fired power station to be located at Block 1671 Tuggeranong. The documentation has been examined and the following comments provided:

Air Quality
The modelling was done in accordance with the NSW Department of Environment and Climate Change "Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales".

Assumptions in the modelling are very conservative i.e. maximum stack emissions, maximum background levels of pollutants, worst case scenario for climatic conditions and all generators running simultaneously. Modelling shows that emissions will met the NO2 impact assessment criteria set in Table 7.1 of 246 ug/m3 at the site boundary. This level is taken from the Ambient Air Quality National Environment Protection Measure.

The facility is a Class A activity and will also need to be authorised under the *Environment Protection Act 1987*. Emission standards and testing requirements will be included in the environmental authorisation.

Whilst predicted emissions levels are close to the maximum ground level concentrations for NO2 the modelling is based on worst case scenarios, including maximum ambient levels, maximum stack emissions and worst case

This error proves 3 things:

1. That the reports cannot be trusted as they have had no peer review.
2. In some cases, the ACT Government does not have the capacity to spot these errors.
3. A full and independent EIS would pick up errors such as this through peer review.

Once again, the solution is a full Independent Environmental Statement where proper sciences complete with peer review is carried out. Only then will this unique proposal be proven safe

The role of ACTEW/AGL in this new proposal

We are completely bemused that ACTEWAGL continues to push this application when it has little, if any, core business left in developing a data centre. Ironically this is a point raised by the Chief Ministers Department on 14 August 2007 (see appendix F) in which the Deputy Chief Executive, Business and Projects asks ".. *The nature of the proposed relationship between ACTEW and the owners and operators of the data centre, including the rationale for ACTEW becoming involved in what might be perceived as an activity that is not their core business"*

We are concerned that now, more so than as a consequence of the first application, ACTEW has stepped outside its principles and is now operating contrary to the values and principles set out in the *Territory-Owned Corporations Act.* For ease of reference we set these out here:

"Main objectives of corporations - section 1 (c) to show a sense of social responsibility by having regard to the interests of the community in which it operates, and by trying to accommodate or encourage those interests; and (d) if its activities affect the environment—to operate in accordance with the object of ecologically sustainable development.

(2) The main objectives of the company are of equal importance.

(3) In this section: ***ecologically sustainable development*** means the effective integration of environmental and economic considerations in decision-making processes achievable through implementation of the following principles:

(a) the precautionary principle;

(b) the inter-generational equity principle;

(c) conservation of biological diversity and ecological integrity;

(d) improved valuation and pricing of environmental resources.

inter-generational equity principle means that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.
precautionary principle means that, if there is a threat of serious or irreversible environmental damage, a lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation."

We submit that in supporting this application, especially now there is no longer a "power supply for Canberra" component – ACTEW is in direct breach of its duties under its Act and further by accepting this application, ACTPLA would be facilitating that breach

Inappropriate development for Broadacre

This proposal does not fit the criteria for Broadacre. Should this application be allowed to be built on this piece of Broadacre it will immediately, without meaningful consultation with the community, change the entire site to Industrial.

The site proposed is currently designated as Broadacre and specifically as a Public space and a special purpose reserve.

Broadacre objectives per the Territory Plan include:

- to make provision for activities requiring clearance zones or protection from conflicting development

- to ensure that development does not adversely impact on the environmental quality of the locality

- that development does not adversely affect distant views from public places to major regional features

This development actually reduces the clearance zone by being proposed to be built within the Broadacre buffer zone currently acting as protection between conflicting development (the Mugga Lane tip Industrial zone and recycling precinct) and the residential area of Gilmore, Macarthur and Fadden. To have this proposal built in this area will directly cause industrial pollution to the residential zones and must be subject to an Environmental Impact Statement (EIS) / Environmental Impact Assessment (EIA) as the impact is so prevalent.

This development completely alters the landscape and balance between urban/industrial and ecological environment of the setting. The buildings and gas fired power station exhaust stacks dwarf any structure in its surrounds including mature trees and nearby industrial warehouse buildings and impacts directly on its rural setting. The proposed warehouse/office data centre buildings are the first of their kind globally, attempting to create a niche market and in so doing alienating the environment and affecting human, non-human and biodiversity of the area.

The proposal claims that the business park of warehouse data centres and offices can be defined as a communications facility. A communications facility includes structures such as radio antennae masts, satellite dishes, mobile phone antennae and small auxiliary buildings that house power and electronic components. The auxiliary buildings of a communications facility do not host thousands of square metres of office spaces, meeting rooms, loading docks for Heavy Goods Vehicles, employee and visitor parking, equipment preparation areas, toilet facilities and the like.

The proponents themselves know this proposal is not suitable for Broadacre but belongs in industrial zoned land. Here are a selection of agency views regarding the nature of this land and this proposal:

In May 2007, ACTEWAGL had determined upon a site for this proposal already on the industrial zoned Hume Industrial Estate. In their supporting documents, (Annex I) they mention one of the benefits of building this proposal on this site as being "*…zoned 'Industrial' and so there is no need for a variation to the Territory Plan".*

Annex J – an email from Scott Carr of ACTEWAGL to Rod Power subject "Offer of land for gas fired power station and data centre co-development – "*We understand the importance of industrial land release and we believe that our development will naturally illustrate the benefits of such a land release program: Our proposal is an industrial land project. Whilst larger than usual it is nevertheless the type of activity that an industrial land strategy should seek to accommodate"*

Annex K – an ACTEWAGL meeting – re the gas fired power station dated 6 August 2007 whilst clearly a mistake, as they had by this time been given by the Chief Minister (Annex L) part block 1671 Tuggeranong Broadacre – " *Appropriate land use zoning already in place (industrial)"*

Annex M unacknowledged report on the application PA –*The appearance of 4 storey buildings fronting Long Gully Road is questionable. The road has a distinctive rural character which could be lost with a development of this scale. Alternatives [sic] sites at Hume or Symonston which have developments of this scale would be more appropriate. – While Hume Industrial Planning Study and Southern Broadacre study both recommend this site be zoned to accommodate an expansion of the Hume Industrial area this would possibly be in the distant future. Construction of this site indicates expansion of this zone is a certainty"*

This is not something lost on Mr Tom Pecival of ACTPLA (annex N) who in an email to Deedman dated 25 February 2008 subject Block 1671 Tuggeranong - confirmed this as an ongoing if unexpected result of situating the Power Station and Data Centre on block 1610 "*in particular the LDA has recently been developing planning intentions for continuing development of the Hume Resource Recovery Estate on Blocks 16 & pt 11 Sec 23 Hume in the short term and infra-structure works could be carried out concurrently"*

In Annex M you will note another indication there will be intended office spaces – something specifically prohibited under Broadacre use "*This site is remote from public transport and facilities. This will require all 203 people eventually employed on the site to drive to work."* (Obviously the number of people working here is unclear. There are clearly several floors of air-conditioned office spaces on the plans – although estimates of how many people will indeed work there have varied from 600 to 5.)

Annex O states *"The data centre may well be a communications facility under the Territory Plan, however it will employ over 200 people. This makes it more akin to an 'office use'. The implications of locating this office use in proximity to a power station need to be identified and assessed" –*

It goes on to say *" The PA cites recent studies and indicates that the site is likely to be re-zoned from Broadacre to Industrial to accommodate the expansion of industrial uses in this locality. In this regard the PA did not assess the implications of the data centre and its 200 workers being located in an area of relatively heavy industry".*

We submit that the proponents believe this project belongs in an industrial zone. The only reason it has not been rezoned is in order to remain within the old Act and thus avoid an EIS and in the continuing theme of pushing this matter through with haste. This proposal is a convenient and instant way to begin the industrialisation of the piece of Broadacre. This proposal is unsuitable for broadacre and should be rejected

Inappropriate proposed use of ‘Broadacre’ land

As we have proved, the proposed power station and data centre is clearly industrial in nature and should not be allowed in a Broadacre area adjacent to residential homes. If it proceeds it should be in an area set aside for heavy industry and well away from residential Canberra.

1) The proposed complex is extremely unattractive. The data centre buildings are of a cheap design, and do not blend into the environment. The switchyard area, the security fence, the generator stacks and power lines into the site are totally unacceptable in aesthetic terms. The size of this proposed development compounds each of these aspects. The design is not acceptable from a community amenity point of view in its proposed form – it’s an eyesore. We note that the drawing presentations from ACTEWAGL have carefully been prepared with the power station and its chimney stack as far from the artist or photo position as possible, trees incorporated into drawings at just the right angle to minimise views of the facility. In addition, they do not incorporate the overhead power lines and minimally include what must be a significant security perimeter fence.

2) ACTEWAGL in the preliminary assessment makes a number of claims in relation to compliance with Broadacre land use policy. We challenge these claims and believe they are not factual and are misleading:

a) to make provision in a predominantly rural landscape setting for a range of uses which require larger sites and/or a location outside urban areas;

The PA claims to meet this requirement however it supplies no evidence of how this facility fits into “a predominately rural landscape setting”. The justification that has been provided, would allow any full industrial development to be located in a Broadacre zone area.

b) to make provision for activities requiring clearance zones or protection from conflicting development;

The PA claims compliance as the facility requires isolation from conflicting developments. However, the proposed site provides inadequate separation from residential developments and does not meet this requirement.

c) to ensure that development does not adversely impact on the environmental quality of the locality; and

The PA claims studies have been carried out; the studies don’t change the facts. The proposed facility is a major industrial facility, very large in size, with a significant number of major warehousing buildings up to 25.6 metres high, overhead power lines, power turbines, and large and unsightly chimney stacks at least 35 metres high and significant security fencing around the entire area. It is also noise and atmosphere polluting. There is an increased risk of accidental or deliberate catastrophe through fire, explosion etc. It clearly adversely impacts on the environmental quality of the locality.

d) To ensure, where appropriate, that development and the use of land does not undermine the future use of land which may be required for urban and other purposes.

The PA advises that no adverse environmental impact is foreseen. In fact the use of this land for data centres and power stations significantly threatens the area itself and precludes many potential uses of the surrounding land area (schools, homes, shops etc)

Further evidence for misuse of the definition of Broadacre

In order to implement a 100-metre outer protection area as required per AS3959 (building in a bushfire-prone area), this would have to be done outside the perimeter of block 1671 as the block itself does not contain enough space to contain this area of separation from the surrounding bushfire risk (grassfire vegetation) and the plan only shows a 15m internal protection area. This leads to the potential that more than this block's area is being planned to be developed and this could be phase 1 of the beginning of the loss of the Broadacre zone altogether.

Former reports submitted with respect to this development had flagged that the proposed Gas Fired Power Station location is currently designated for Broadacre Land, and therefore zone E but it is expected that the entire area is to be re-zoned as industrial and therefore be designated as zone A. This assumption cannot be made as there is no definition of what the “entire area” is from a planning/map perspective and an alteration to the Territory Plan has not been initiated and as such, the area will be zone E Broadacre Land at the time of a decision being considered and development proceeding.

The gas-fired power station and business park appear to be an industrial and commercial facility and would have been intended for development within existing industrial zones such as Block 7, Section 21 Hume or Block 18, Section 23 Hume. The Broadacre Land being Block 1610 of Tuggeranong is not to be re-zoned for the mid-long term and would be first subject to appropriate Territory Plan amendments, Heritage investigations and Environmental Impact Assessments before this could be considered.

Allowing the construction of the gas-fired power station and business park in this unsuitable location would be remiss in that it would appear to be an attempt to accelerate the process and/or to prepare the entire area for industrial use through the equipping of infrastructure and services that will scale-up as the industrial precinct is implemented. As such, with growing power requirements there is the intent to scale-up the power generation through use of the “secure holding area” and as such this would nullify any current calculations of emissions and air quality given that it takes in to account background NOx levels from Monash, 6kms from the site and from 2003, over 5 years ago.

Should the re-zoning not occur, the infrastructure and services investment would be wasted, requiring other infrastructure and services investment elsewhere. The bushfire risk remains extreme especially from the North-West vegetation corridor and there would not be a safe asset protection zone to allow for fire-fighters to defend the site.

Further consideration is required for the off-site impacts including clearance zones, the routing of other supporting infrastructure (for example communications via fibre optic cable trenches) as only the main utilities being water, gas and electricity transmission lines are considered in the plans of the Preliminary Assessment and Development Application.

As a result of these issues, CPR Inc. calls for the rejection of this application or in the alternative a full Environmental Impact Statement is carried out to clarify the extent of damage to the environment and the costs to the community vs the profits of the private consortium attempting to create a niche market as opposed to greening existing data centres (through server virtualization and increased data hall temperatures and alternate cooling methods) already present in the Territory

Evidence in this matter includes:

Proponents' press release:
http://www.canberratechnologycity.com.au/downloads/Next-generation%20data%20centres.pdf
“The base model... includes office space and, most importantly, air conditioning.”

Proponents' product page for the GC2 building (3 referenced on the revised master plan):
http://www.galileoconnect.com/1.3.2.0.gc2.html
“This product includes a floor of offices, 1450m² (approx 15,000ft ²) which are most commonly used for disaster recovery or alternatively can be used for full time occupation.”

Floor plan:
http://www.actpla.act.gov.au/__data/assets/pdf_file/0014/9104/12_Floor_Plans.pdf

Cross section:
http://www.actpla.act.gov.au/__data/assets/pdf_file/0015/9105/13_Section_Plans.pdf

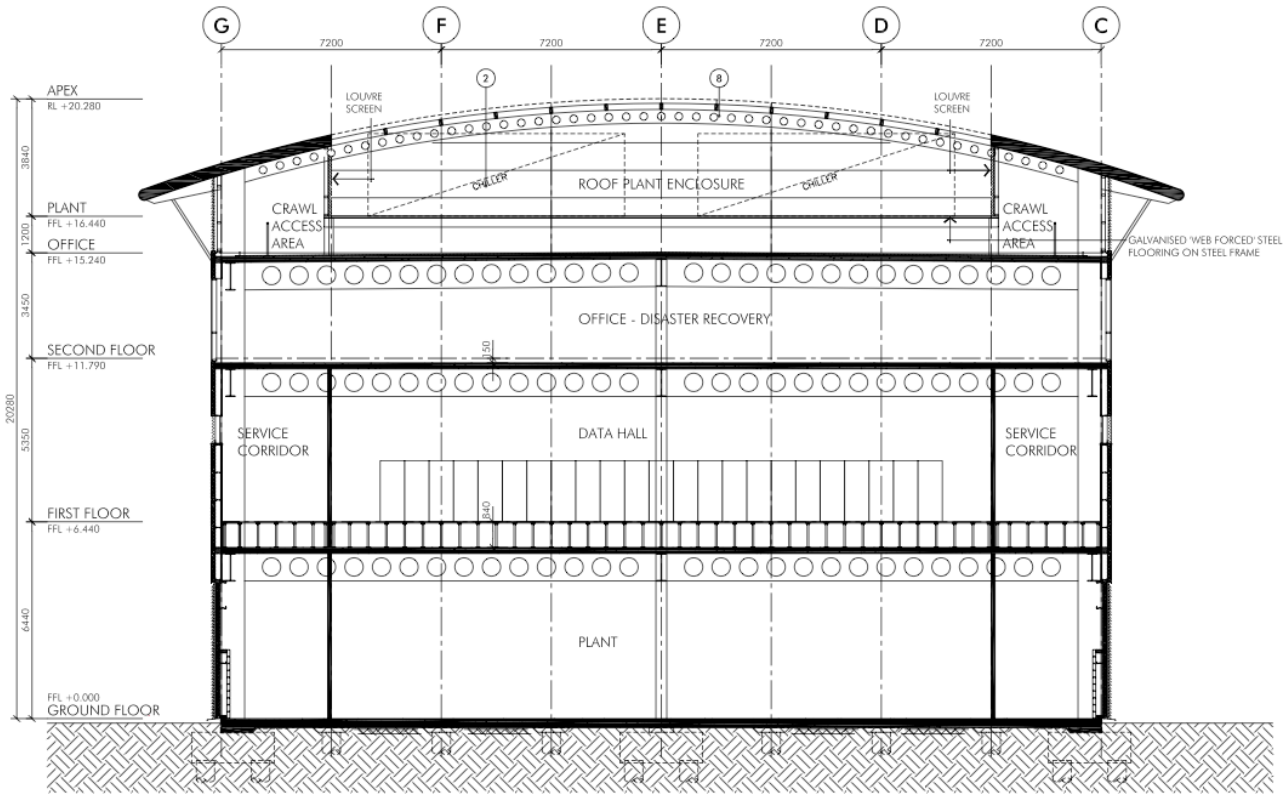
Site plan including car parking spaces:
http://www.actpla.act.gov.au/__data/assets/pdf_file/0003/9093/1_Site_Plan.pdf

Inappropriate building sizing

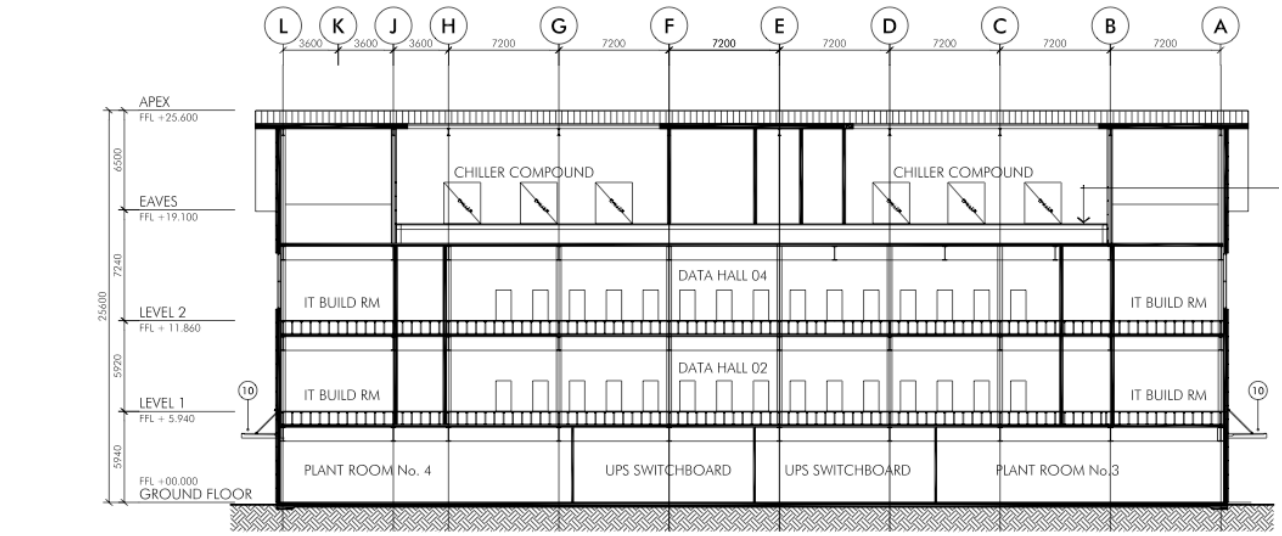
These proposed buildings are on a massive scale which are out of context with surrounding rural environment and neighbouring broadacre or industrial zones.

The SMALLEST of the GC series buildings is approximately 62 metres by 30 metres by 17 metres high. The larger buildings are roughly 62 metres square by 26 metres high.

These buildings are massive and not in context with Broadacre. The same is applicable for the 35m high exhaust stacks of the gas fired power station



GC3 height; 19.1m to eaves; 25.6m to apex (approximate height 6 storeys)



A GC3 - SIDE ELEVATION
SCALE 1:200

We therefore submit that this proposal is not compatible to Broadacre as defined within the Territory plan due to the building size and should be rejected on this basis

Noise

The consortium continues to rely on an Acoustic Assessment produced by Bassett Consulting Engineers however, **Bassett STILL has no actual independent, verified base data from which they have produced their report.**

The document states "Noise levels for all natural gas co-generation facility equipment have been provided by SDA Engineering Pty Ltd. All heights have also been defined by SDA."

Given this:

- How was the source data derived?
- Has the data been subjected to peer review?
- How has the source data been applied in the CTC installation, particularly in the sound attenuation context?
- Why does it appear that some of the individual components now appear magically quieter when compared to the first version? Examples include:
    - Bypass Stack – Was 85 now 79
    - GT Genset – Was 85 now 74

  These variances cannot be explained away as "the power station is now smaller" as these individual components still create the same level of noise. What changed?

Their report was based on data supplied by SDA Engineering. SDA Engineering have an existing business relationship with AGL (they installed a much smaller 4.4 megwatt gas turbine in Adelaide. (*Source* **http://www.sdaengineering.com.au/nat.html**) and it is clear that they will benefit from additional work with ActewAGL if this project goes ahead.

It needs to be made VERY clear that a single Titan 130 operates in the Northern Territory where real world data has been gathered. The documented experience at the Ron Goodin Power station at Alice Springs indicates that this acoustic assessment must be seriously flawed.

As a result of repeated complaints from nearby residents located 300 metres to 1500 metres from the Titan 130 generator at the Ron Goodin Power Station, a highly detailed report was produced in late 2006 titled "Report 08.501D-RGPS Noise Impact Assessment November 2006". *Page* 7 of the report states that "the noise emissions from the Titan generator were measured to have a maximum Laeq of 103.1 dB(A) at a distance of 3m away from and 3m above the lip of the exhaust." A discrepancy of more than 20.1 db(A) exists between the real world, measured data at the Ron Goodin Power Station and that of Bassett's new report.

As a result of the initial noise problems, Power and Water Corporation (the Power Station owner) installed additional noise abatement measures at a cost of $800,000. These were partially successful in that the noise was reduced by some 5 db. However, this was insufficient. So much so that the offending power plants are being moved to another site approximately 25 km's from Alice Springs.

Additionally, the testing proved that ambient noise levels were significantly higher at the Alice Springs locations when compared to Macarthur ACT.

Time of Day	Alice Springs, NT	Macarthur, ACT	Difference
0700hrs - 1800hrs (day)	38.6	36.5	2.1
1800hrs – 2200hrs (Evening)	39.9	35	4.9
2200hrs - (Night)	36.2	26.5	9.7

NB – For the purposes of the above table, w have averaged the individual site results from both reports.

Macarthur is quieter than the sites recorded in Alice Springs. Despite having higher ambient noise levels in Alice Springs, the Titan 130 turbine generator could still be heard.

More issues around noise

1) The Executive Summary advises that in setting the required sound measurement points, at the site boundary “usual practice is to take the average of the different noise zone limits, in this specific case only Broadacre noise criteria is used”. This is obviously designed to present the high noise levels at the boundary in their best light. It is inappropriate and the report should include the comparisons using the “usual practice”. This clearly becomes irrelevant in any event when taken into account the bigger picture intention to re-zone and develop this land into industrial.

2) We have a number of concerns in relation to the approach to handling ambient noise levels in the modelling process:

   - The approach to measuring background noise levels is not acceptable. This was simply a seven day measurement in a one week period of the school holidays in January 2008. In school holidays many businesses (as in nearby Hume) close down and traffic patterns on the nearby roads alter significantly. As Bassetts state in their report, this approach is not best practice.

   - It is a scientific fact that noise behaviour is significantly changed in cold still air; this fact is taken into consideration in designing road and airport noise barriers etc. The Noise Report in the Preliminary Assessment mentions no measurement of background noise during the cold months of still air which persist in Canberra winters for a prolonged period. If in fact the January recordings have been extrapolated out to meet this requirement, it is a totally inadequate approach. We don’t believe this modelling can be viable unless background noise data for winter months, in the local area, is captured and incorporated.

3) We are concerned that the findings presented in Appendix C and D to the Noise Report appear NOT to include ambient (background) noise within the findings. We note that in the conclusions to the Noise Report (Appendix J) terms like the following are used:
   "noise from the proposed development..."
   "emissions from the site...".
   This leaves the possibility that only power station emissions are presented (i.e. background noise levels are not incorporated). If so this is a very serious shortfall and will typically lead to incorrect conclusions that noise levels may be satisfactory when they are not.

4) None of the charts provided (Appendix C to the Noise Report) state that ambient noise is included in their conclusion graphics. Additionally, the findings shown for individual houses (Appendix D to the Noise Report Appendix J) appear to be below what was identified earlier in the Noise report (2.5.2) as background noise. (Example some houses are shown with forecast noise levels of 6 db etc yet the background noise measured for the area is supposedly Day 38, Evening 32, Night 26).

5) None of the material provided includes allowance for the noise generated by the large amounts of data centre equipment to be operational within the facility. This includes data racks, server units, disk storage units a/c fans, transformers etc. The model cannot be considered complete without accounting for noise generated from facilities housed within the buildings.

6) Section 4.7 advises that the noise modelling is based on assumptions that noise wall barriers around chillers, buildings enclosing generator sets; with enclosure design to be “developed during detail design” etc. will be implemented. If this is not guaranteed, together with the noise reduction impacts then this assessment is again invalid. These MUST be guaranteed.

7) Section 6 again advises that noise walls and other treatments can control noise at the residential areas. This needs to be guaranteed in terms of countermeasure effectiveness. If it can’t be guaranteed then this assessment is seriously flawed.

8) The Report advises in Section 6, that roof top chillers will be used if co-generator is shut down – and that this should not normally happen. With “roof units to be noise controlled with mechanisms that can be selected during the design phase”. Again this must be guaranteed together with its effectiveness. If these units are likely to operate then they must be included in detail in the modelling.

9) Appendix D provides analysis results in graphical form. It is not clear if these are day evening or night results. These would all be significantly different given weather condition changes, especially in winter months.

10) There are significant differences in noise levels between Scenario 1 and Scenario 2. With Scenario 1 clearly being the preferred option. However, scenario 2 is much closer to environmental limits. How should this be interpreted in terms of community concern? Can we take it that Scenario 1 is what will happen? If not then the community is entitled to know that it’s the more significant noise levels that will apply. And it is these levels that ACTPLA should be considering.

11) Weather data from Canberra Airport and Monash is used. Canberra airport is in a large open bowl while Monash is west (prevailing wind direction) of the intended site. The intended site is surrounded on three sides (north west, west and south west) by significant ridge lines – thus the weather patterns are significantly different. The fog layers that bank up against Fadden Ridge, lock in cold and wood smoke saturated fog, frequently until early afternoon at this time of year. This effect is not measured at either of the sites used for data provision. This dense, cold, smoke saturated air will cause noise distribution significantly different from the data sites used for modelling.

12) The modelling has not allowed for the likely growth in background noise from what appears to be an increasingly industrial area. Again this contributes to the model leading to invalid conclusions about future noise levels.

CPR Inc therefore calls for the rejection of this application due to the increased noise or in the alternative a full Environmental Impact Statement is carried out to clarify the full extent of the noise levels increase

Transformers in the switchyard

According to Development Applications and Preliminary Assessments submitted by others, similar transformers produce around 85 dBa at 1 metre. This has not been factored into the modelling.

It should also be noted that the modelling doesn't account for the noise created during the construction phase, nor does it account for the increase in vehicle traffic.

To summarise from a noise point of view -

- Bassett's report relies on data supplied SDA Engineering with no peer review or indeed, ANY SOURCE DATA METHODOLOGY AT ALL.
- The transformers in the switchyard have not been included in the Acoustic Assessment.
- Neither construction phase nor extra motor vehicles have been included in the modelling.
- The source data is unlikely to be valid as the documented experiences at the Ron Goodin Power Station prove this.
- The quality of testing at the Ron Goodin Power Station is very high. The report is very detailed; it is backed up by calibration data. The Basset report is 1/3 the size and has no calibration data.
- The ambient noise at the Alice Springs test sites is greater than in Macarthur however the noise from the generators was still a problem.
- NT Power and Water attempted to solve the problem through engineering solutions and they could not.
- NT Power and Water are relocating the offending generator to meet their obligations to their neighbours.

These points render the entire acoustic assessment invalid. Particularly in the context of the results at the Ron Goodin Power Station.

Sources:
Report 08.501D-RGPS Noise Impact Assessment November 2006
http://www.powerwater.com.au/docs/reports/100107_hmapw_report_rgps_06_survey_final.pdf

Noise Mitigation works at the Alice Springs Ron Goodin Power Station
http://www.powerwater.com.au/news/ron_goodin_power_station.htm

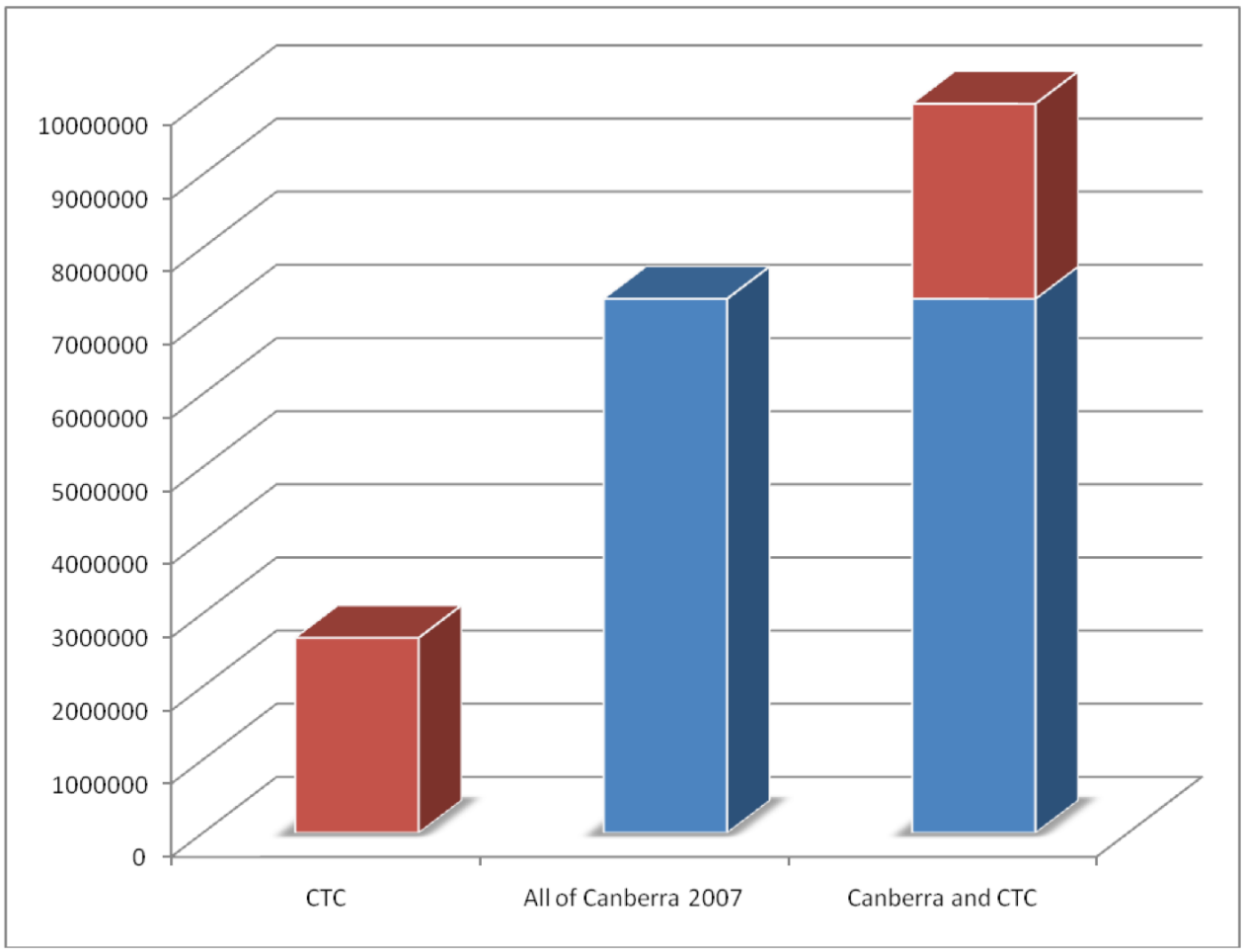
Impact of gas supply on Canberra

This development fundamentally affects the gas supply to all of Canberra.

The Titan 130 Gas Turbines included in this proposal, consume 152 gigajoules (Gj) per hour each (Source - Solar Turbines Power Generation Product Selection Guide 2008, Page 3). When extrapolated out to a full year, you can see that the Canberra Technology City will consume 2,666,544 Gj per annum.

Gas consumed by each Titan 130 generator	*152*
Multiply by 2 for 2 generators	*304*
Multiply by 24 as generators run 24 hours per day	*7,306*
Multiply by 365 days in a year	***2,666,544 Gj***

In 2007, the total natural gas supplied by ACTEWAGL was 7,301,000 Gj (Source - ACTEWAGL Annual Report and Sustainability Report 2007, Page 84). As the Canberra Technology City consumes 2,666,544GJ, it will add a massive 36% additional load on the gas network in Canberra!



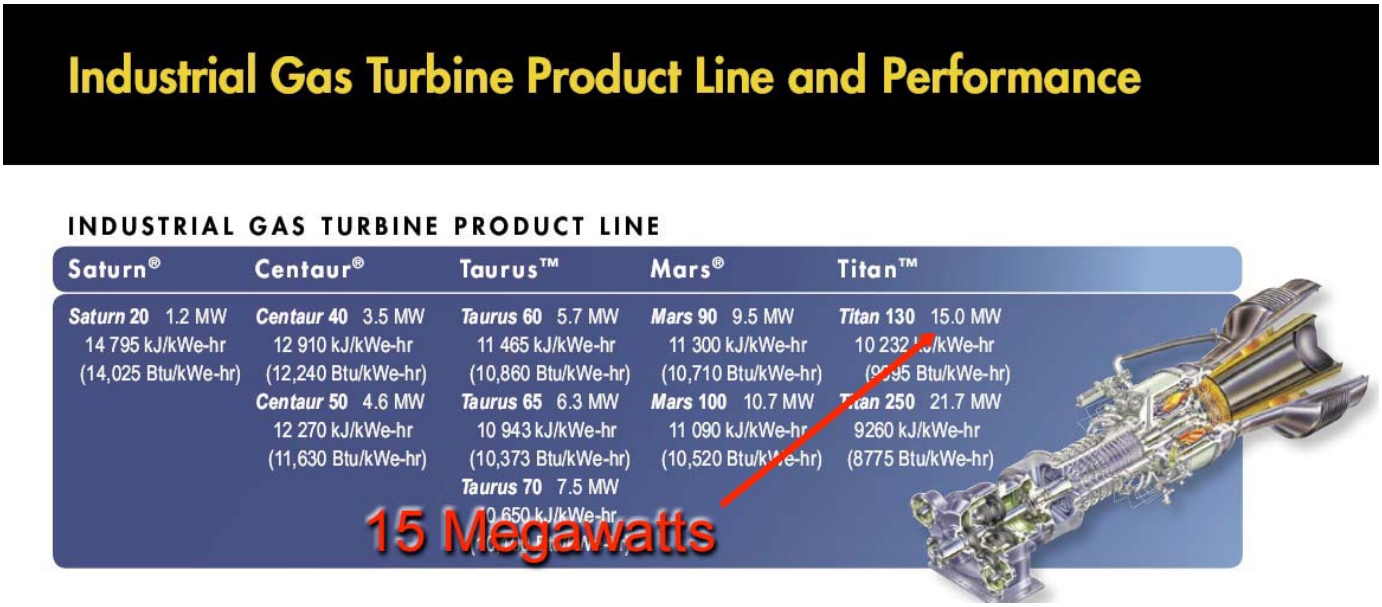
This has not been addressed at all. Importantly, the above figures are annualised so they don't take into account the load patterns throughout the day. Therefore, the loads on the network will be higher at peak time which means the impact will be greater. Furthermore, the above figures don't take into account the recently announced 500MW gas fired peaking power station in Williamsdale which will obviously have an even greater impact on the gas network in Canberra.

We submit this application be rejected and in the alternative a full Environmental Impact Statement is required to ensure that this development doesn't adversely affect the essential natural gas supply to all Canberra

A 30 megawatt facility with associated 132KV power lines

This is at least a 30 megawatt facility with associated 132KV power lines

These are not “small power modules” as promoted by ACTEWAGL and the other proponents. This is at least 30 Megawatts, not 28. According to Solar Turbines (the Titan 130 manufacturer), Titan 130’s are 15 Megawatt devices.



Indeed, they are capable of outputting slightly more. Therefore, this proposal is in fact a 30 megawatt facility.

Some other statistics are worth mentioning:

- The Titan 130’s will output 179,250 kilograms of exhaust gases per hour per unit (Source – Solar Turbines TITAN 130 Gas Turbine Generator Set sales brochure). This equates to 3,140,460,000 kilograms per annum (that’s 3 BILLION kilograms each year).

- The exhaust gases exit at around 107 kilometres per hour (Source – Plume study in Preliminary Assessment. 27.8 metres per second converted to Kph).

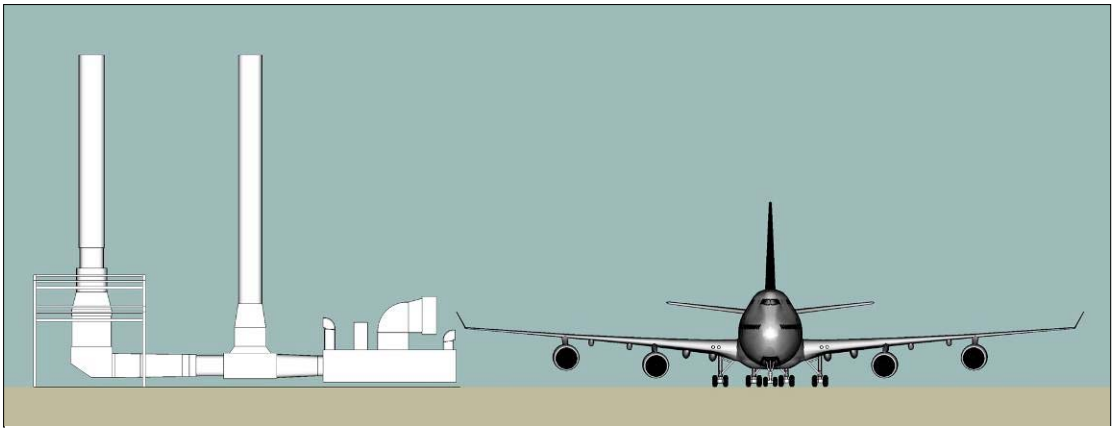
- The exhaust gases are at around 500 degrees Celsius (Source – Plume study in Preliminary Assessment. Degrees Kelvin converted to Celsius).

- The 4th Big stack, is in fact 3 stacks merged together. Consequently, the 4th stack is twice the diameter of the 3 bypass stacks.

- The energy consumed (the gas) by the Titan 130’s is enough for 140,000 people (Source - Source - Energy Use in the Australian Residential Sector 1986 – 2020, Dept of the Environment, Water, Heritage and the Arts 2008, Page 29 , Section 3).

- The gas consumed by this pair of Titan 130's, is more than 20 times the total energy (power and gas) needs of Parliament House (Source - Department of Parliamentary Services - Energy and greenhouse gas emissions. http://www.aph.gov.au/dps/building/EMS/EM_Energy.htm)

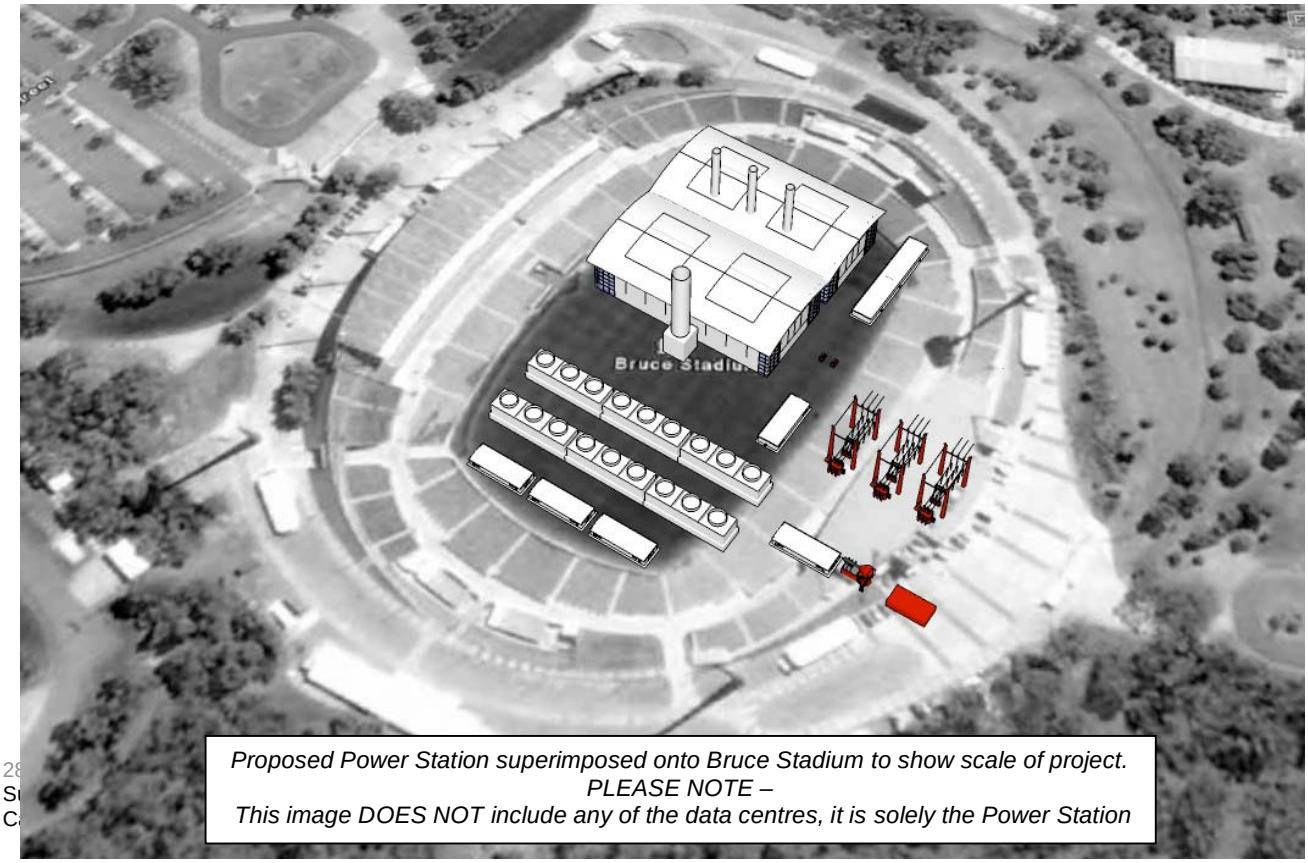
- 30 megawatts is 30 MILLION watts laymen's language. The proponents have been describing the installation as "a small power module" which is patently misleading. As far as we have been able to determine, NO OTHER DEVICE IN THE ACT CONSUMES ENERGY OR OUTPUTS EXHAUST GASES ON THIS SCALE.



A single proposed gas turbine generator compared to a Boeing 747-800 Jumbo jet aircraft.

- Some politicians have been making comparisons between the Titan 130's and motor vehicles on Monaro Highway. This is scandalous because the Titan 130's are stationary, therefore the emissions emit from the single location, 24 hours a day, 7 days a week. The comparison is ridiculous, however that aside, cars travel on Monaro Highway at 80km's per hour with highly variable traffic flows. Therefore the emissions from a car are spread over a massive area with an equally massive variation of traffic load.

ACTPLA should not be misled into believing that this power station is a "small installation" with minimal impact. A full Environmental Impact Statement is required to address the implications of this unique and large installation that is proposed so close to residential Canberra



Proposed Power Station superimposed onto Bruce Stadium to show scale of project.
PLEASE NOTE –
This image DOES NOT include any of the data centres, it is solely the Power Station

No independent or comprehensive reports

The reports are far from independent or comprehensive and should not be relied upon

As previously noted, the majority of the consultant reports have been commissioned by CBRE on behalf of ACTEWAGL. Whilst we are not alleging that impropriety has taken place, it is important to consider the following:

- How were the consultants briefed? - None of the reports contain the brief which presumably forms the basis of their reports. Importantly, we simply don't know what the consultants were instructed to carry out and what CBRE's expectations were in relation to the reports.

- Existing Business Relationships – Presumably these consultants would get repeat work with CBRE and ACTEWAGL if their reports continued to be consistent with CBRE and ACTEWAGL's goals.

- SDA Engineering's Role? – SDA Engineering has supplied the base data for the Plume Study and Acoustic Assessment. They are also the electrical engineers for this project so it is firmly in their interest to do all that they can to get this project up and running.

- Where did the source data come? – In both the Plume Study and Noise Assessment, the source data was supplied by SDA Engineering with **no supporting evidence whatsoever**. It is crucial that the source data is perfect; otherwise the entire modelling contained within the reports will be incorrect. Therefore:

    - Where was the data sourced from? Was it from the manufacturers or an independent verifiable source?
    - What proof exists that the test equipment used to acquire the original source data was calibrated correctly?
    - What peer review was undertaken of the source data?
    - How was the source data applied in these reports? For example, how can the consultants know what the emissions will be unless the mixture of OUR Natural Gas is part of the source data? (The mixture of Natural Gas varies based on where it is sourced).
    - How are the variations in this installation accounted for? For example, the stacks in this proposal are a custom design so how have the implications of that design been applied to the source data?

Given that the source data cannot be validated, and the fact that the Engineering Consultant made no attempt to validate that data which is in itself poor engineering practice, this model is considered invalid.

We are very concerned that the "Health Report" announced by the Minister for Health relies on the reports contained within the Preliminary Assessment. As we have demonstrated, this approach is fatally flawed and only a full Environmental Impact Statement will ensure that the Health Study can be considered to be valid.

Increase power generation at a later stage?

As a result of community reaction to the first version of this proposal, the proponents have made public statements where they claim they will never increase the size of the power station. It's an easy promise to make for the following reasons:

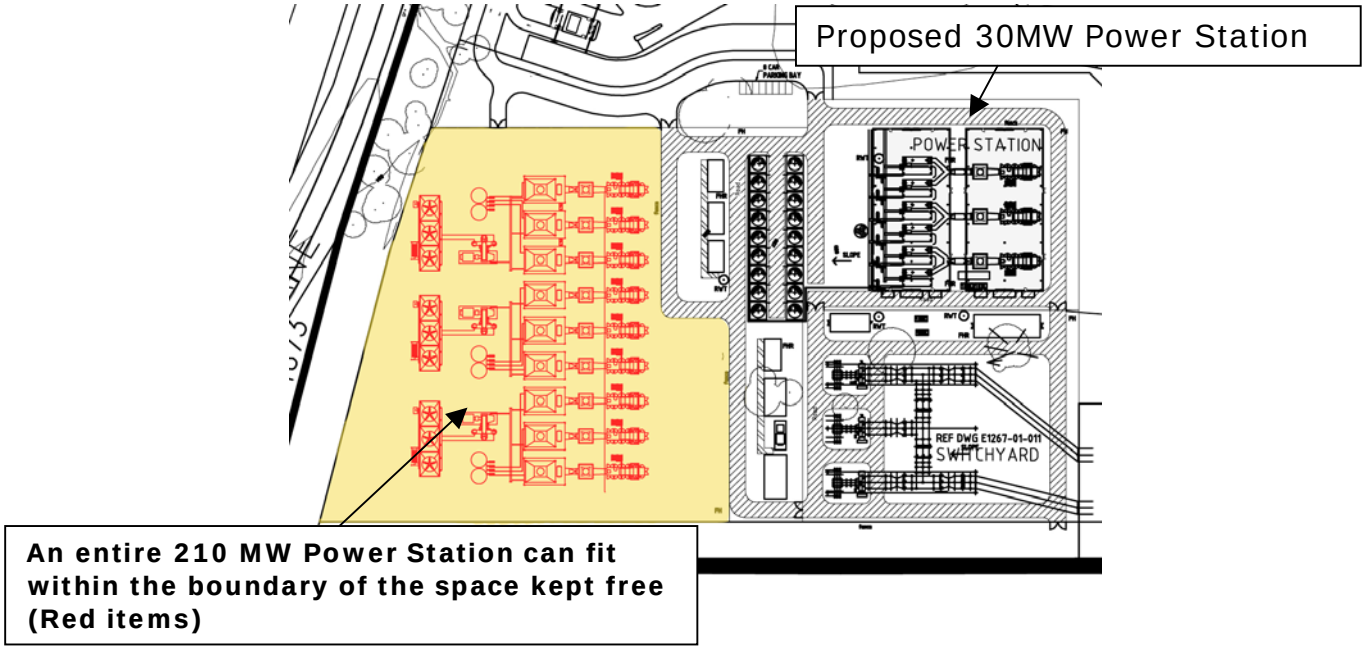
ACTEWAGL won't own the power station; it is owned and operated by Technical Real Estate.

1. Technical Real Estate's business plan is to sell the CTC development to Australian superannuation funds in the short term, and then continue to manage it under contract (Source – Mr Stephen Ellis, Meeting 5th June 2008)

   Therefore, if neither of the proponents actually own the development, their promise is worthless. A new owner may well be keen to expand the onsite power infrastructure because:

   - The gas supply capacity remains the same. Therefore, the gas supply from Narrabundah is already in and is sufficient to feed a bigger power station.
   - The 132kv power lines are in.
   - The "Secure Holding Area" immediately to the north of the proposed power station is being kept free. Neither Mr Tony Adams (CBRE) or Mr Stephen Ellis (Technical Real Estate) would tell us why that space is being kept free. The space is big enough for the original 210 Megawatt power station.
   - The security fencing is largely done in that space.
   - The water supply is sufficient.

It is cheap and easy for the new owners to expand the Power Station.



Possible conflicts of interest

We feel it is important to bring to your attention the possible conflicts of interest that we have discovered whilst researching this project. We are not alleging that any illegal activity has taken place however in the context of a project worth $1 billion which is likely to have major implications for many people; we feel it is important that the process is as transparent as possible.

CB Richard Ellis – CB Richard Ellis sourced and contracted all the consultants that provided reports to support the Development Application.

CB Richard Ellis is likely to be involved in the leasing of the data centres so may have a financial interest in the successful outcome of the project.

Mr Stephen Ellis - Stephen Ellis is the past President and CEO of CB Richard Ellis in Australia and New Zealand. He left that group in 2006 and is now on the board of Technical Real Estate (Source, Technical Real Estate Website, http://www.technicalrealestate.com.au/management.htm) and Galileo Connect. Additionally he is a shareholder of Technical Real Estate via another company called Corporate Estate Management Pty Ltd (Source, Australian Securities Commission). Technical Real Estate and Galileo Connect are the consortium that are developing the data centres. Considering that Mr Ellis was publicly involved in Technical Real Estate in September 2007 (Source MIS Financial Review, http://www.misaustralia.com/viewer.aspx?EDP://20070911000019383595) at the latest, it possible that he may continue to have some influence at CB Richard Ellis and in particular, their consulting work on this project. **It is a fact that Mr Ellis was still at CB Richard Ellis when the proposal work started (he was a director up until 7th June 2007).**

Mr Andrew Campbell - Andrew Campbell developed the Technology Practice Group early in 2004 to supplement the CRE business at CB Richard Ellis. This group was set up to specifically advise on data centres such as the subject of this proposal. He is also on the board of Technical Real Estate (Source, Technical Real Estate Website, http://www.technicalrealestate.com.au/management.htm) and Galileo Connect. Additionally he is a shareholder of Technical Real Estate via the same Corporate Estate Management Pty Ltd company (Source, Australian Securities Commission).

Technical Real Estate Pty Ltd – Technical Real Estate are the promoters of the data centres. However, for whatever reason, they don't appear in the development application at all. Additionally, ActewAGL are the applicants for the development application however they have no shareholding in Technical Real Estate or indeed the power station! Technical Real Estate is simply a business with a goal to make a profit. We are wondering what the relationship is between ActewAGL and Technical Real Estate and in particular, whether this is some sort of scheme to secure land at a bargain price.

SDA Engineering Pty Ltd – SDA Engineering are the organisation that supplied the noise data that formed the basis for the noise assessment and the plume study in the Preliminary Assessment. It should be noted that SDA have an existing business relationship with AGL (50% shareholder of ActewAGL) which is NOT of a consulting nature. SDA was appointed as Engineers and turnkey contractor to design and construct a 4.4 MW cogeneration plant for the Coopers Brewery at Regency Park, Adelaide (Source SDA Website http://www.sdaengineering.com.au/nat.html) . AGL was their client and it would seem that it is in their interests to maintain their ties with such a good client. In the majority of the drawings from Galileo Connect contained within the Development Application, SDA is mentioned as being responsible for the electrical work. There is a clear conflict of interest as SDA have much to gain by this project going ahead.


Single Typical 120ft Stack (36.5 metres) Source - Industrial Fabrication Company of America
Person

Rose Cottage Horse Paddocks and Block 1671

The Rose Cottage Horse Paddocks were established for horse agistment almost 20 years ago. These paddocks have since been established and maintained with conservation in mind. The steep hills are fenced out of the paddocks to preserve the woodland and prevent erosion. Individual trees and groups of trees (including dead trees) are fenced off from the paddocks to provide habitat, to allow for regeneration and to prevent horse damage. Tree corridors were planted 15 years ago by Landcare and Greening Australia. Further tree corridors were planted 2 years ago by Environment ACT.

The paddocks are managed strictly to ensure habitat is increased. If a tree branch falls off, it is left where it fell. Agisters are well aware that not a single stick or rock is to be removed from the property. Significant trees are all fenced for protection and inspected weekly by the paddock managers. The paddocks are managed sustainably. Frequent paddock rotation is practiced so that no area is overgrazed. Recent infrastructure improvements have included relocating horse yards from a sloping area to flat ground. Water troughs have also been relocated to reduce the impact of horses trampling frequented areas. New tree corridors have been fenced off from the paddocks.

The two paddocks, adjoining Wanniassa Hills Reserve and containing box-gum woodland are grazed only lightly and infrequently. During the current drought, they have not been grazed at all. Horses are not allowed to be ridden in these two locked paddocks.

This conservation management has meant that the quality of the habitat in and around the paddocks has improved over time. The number and quality of trees has increased. Regeneration of major tree species is happening in fenced off areas and in the paddocks themselves. Dead trees and fallen limbs have increased the available fauna habitat.

These measures reflect the management practices discussed in ACT Lowland Woodland Conservation Strategy "encourage natural regeneration and restorative planting in areas where woodland is fragmented." Light grazing is suggested.

"Woodland of lower vegetative condition or habitat quality can provide a buffer to woodland of higher conservation value." (Page 79). Block 1671 needs to be considered as a buffer which has been and will continue to be improved and maintained as an ecological community.

The development plans show a 60m wide easement corridor for electrical wires going from Block 1671 for almost 1km to join existing infrastructure near Macarthur. This will cause many trees to be destroyed. There is a 15m bushfire buffer zone to be established around the development, which will also cause tree destruction. A large proportion of the trees on Block 1671 and surrounding it are severely affected by mistletoe. Any disturbance, particularly an increase in heat and pollutants, will cause their demise. There is also a 3.5m wide bushfire emergency fire trail around the development that will cause the loss of further trees.

This bushfire trail may have to be widened since bushfire experts have noted that a 3.5m trail is inadequate as it will not allow sufficient space for fire trucks to turn around.

We have significant concerns about whether the true ecological value of the site and surrounding area has been recognised and whether it will be accurately considered during the ACTPLA process. Our concerns are elaborated below. In reaching the position outlined below we have consulted with a number of experts in various fields, who we are sure will be happy to elaborate further.

It is astonishing that Block 1671 could now be obliterated by this proposed development. Retaining some of the trees as landscape specimens does not save ecological communities because it destroys the understorey. These remaining landscape trees will abut roads, car parks and buildings 25m tall, an arrangement not conducive to the continued growth and health of trees. We submit this project should be rejected in order to preserve this wildlife corridor and land which has been sensitively and assiduously protected over the years.

Flora and Vegetation Communities

A flora and fauna report written by David Hogg P/L was submitted with the proposal. This report was produced in January 2008 for the original application. It was amended, without further visits to the site, in June 2008.

The initial Hogg Report, produced for the original application for the power station development, did not mention the area of Yellow Box- Red Gum Grassy Woodland (the Wanniassa Hills Unit, in the ACT Lowland Woodland Conservation Strategy) adjoining the development site.

This is described in the ACT Lowland Woodland Conservation Strategy[1] (page 68) as follows:

"One third of the unit (113ha) contains Yellow Box-Red Gum woodland most of which is part of the Rose Cottage Horse Paddocks. The unit contains mostly moderately modified woodland with some partially modified woodland along the southern edge. In the eastern part of the horse paddocks Yellow Box-Red Gum Woodland merges into highly modified woodland with scattered trees."

"Much of the unit contains ground flora moderately sensitive to disturbance and is good quality fauna habitat."

The Woodland Conservation Strategy suggests: "Management of horse holding paddocks in a manner that maintains or improves the condition of Yellow Box-Red Gum woodland contained within them."

In Hogg's amended report, this aspect of the box-gum woodland is discussed, but in a perfunctory and misleading manner from which we believe he has drawn incorrect conclusions.

The Hogg report states that "Despite the predominance of yellow box and Blakely's red gum trees on the site, the area is not classified as the endangered ecological community Yellow Box – Red Gum grassy woodland, in Action Plan No 27, due to the predominantly exotic nature of the groundcover." (page 4)

Site inspections were conducted ONLY during January 2008. One month is not enough to produce an accurate or reliable flora assessment and yet it has influenced the decision to label the woodland "not environmentally significant." Flora, in particular, shows many seasonal changes. January 2008 followed 2 months of above average rainfall. The amount and type of groundcover evident during January 2008 would not be typical of this area, which usually endures a long hot dry summer.

Recent site inspections, after months of virtually no rain, reveal that the native groundcover is 80 – 90%. Thus the block WOULD be considered to contain a nationally endangered community. Further studies are required in other seasons to accurately determine whether the flora is environmentally significant. This is particularly important considering the block and the area surrounding the site contains yellow box-red gum woodland trees which are critically nationally endangered and need specific management practices to protect and maintain them.

Block 1671 contains a number of mature woodland trees (yellow box, red gum, red box). All these trees are considered to be in good condition and are fenced individually or in groups. Yellow box red gum woodland (listed as a threatened ecological community - ACT) is considered to be a nationally endangered ecological community. Yet the Hogg report dismisses the community on this block as not significant because of the predominantly exotic nature of the groundcover.

[1] ACT Government, 2004, Woodlands for Wildlife: ACT Lowland Woodland Conservation Strategy Action Plan No 27 (Environment ACT, Canberra)

We have consulted with people[2] who have expert knowledge of Yellow Box Red Gum Grassy Woodland and Box Woodland (listed as a threatened ecological community under the EPBC Act). They have looked at the plans and concluded the following:

In respect of David Hogg's report, they have stated "while, its description of the vegetation is largely correct, the statement that the ground cover in Block 1671 is less that 50% native ground cover and is weedy is untrue. 80-90% of the ground cover is native grass and the area is only moderately weedy. Also as this paddock adjoins areas of high conservation value, it is possible that the "0.1ha or greater with 12 or more native understorey species present, excluding grasses" criterion is also met. **That is, contrary to the Hogg Report, the area meets the definition of Box Woodland under the EPBC Act and should be referred"**

These experts further conclude that, "Areas of Yellow Box Red Gum Grassy Woodland will need to be cleared to accommodate the water, gas, optic fibre and power linkages to the proposed station."

The little pea, *Swainsonia recta*, is endangered in ACT. This plant is an annual and would be present in spring, but not in January when the flora survey was done. This plant is believed to have become extinct when roadwork was done on Long Gully road previously. However, it may be there and should be surveyed for. This plant would be severely disturbed by this development, such as building power lines or water pipes through the existing woodland area.

There are many regulated trees located to the south of the site, both within and outside the site. We have noted, as has the Bill Guy and Partners' in their Tree Assessment Report in the Preliminary Assessment, that mistletoe "dominates the crown of many trees to an extent nearing the high end of impact seen on any large area in Canberra." Mistletoe does not necessarily kill trees and in low density, has few deleterious effects on its host. Hosts have many defences, which may be less effective when the tree is stressed. There is some evidence that unhealthy trees are more prone to mistletoe infection. This development proposal will create the "potential for a ground level heat island to extend into nearby bushland." (Appendix 1). The heat produced by this development could conceivably cause the demise of many of the woodland trees that are presently severely stressed.

The Bill Guy Report has neglected to mention a group of four significant trees that are located on the north end of the western boundary of the block. These trees can be seen in the aerial photo (figure 1, from the Hogg report). These trees consist of a red gum, a red box and two dead trees. They form a significant habitat group in a largely cleared area, providing a 'stepping stone' to other tree groups.

The Hogg report states that "a higher density and greater abundance of trees is located between the site and the suburb of Macarthur." This is correct, but it is concerning that a 60m wide power line easement will be cleared through this area to allow high voltage power line connections to the already existing 132kV lines near Macarthur. It is not at all reassuring to note that in the Preliminary Assessment, ActewAGL state that "the visual affect of the new 132kV transmission lines will be negligible, as they will have the same visual impact as the existing transmission lines." They are happy to disregard the addition of an extra 1km of transmission lines, with 20m high concrete poles and a 60m wide easement underneath as being "negligible."

The proposed development plans to construct a 4.4 km water pipe from a reservoir near Farrer Ridge to Block 1671. This pipeline appears to follow the existing Equestrian Trail in the road reserve beside Long Gully Road and Mugga Lane. There is the potential for this infrastructure to cause damage to the box-gum woodland through which it traverses.

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[2] Dr Michael Mulvaney, NSW NPWS and Geoff Robertson, ACT Conservation Council

The proposed development plans to relocate a high voltage power line and easement presently existing on Block 1671. The plans state that this power line easement will be moved to the Mugga Lane road reserve or to the road verge. Either of these positions will place this power line easement in an area of relatively dense trees, including dead trees. The Hogg report states "Along the Mugga Lane frontage, outside the horse paddocks, the tree cover is relatively dense with a large number of young trees resulting from natural regeneration or possibly planting." (page 3). The environmental impacts of moving this power line easement have not been assessed.

Wildlife and wildlife corridors

In the initial report, Hogg did not mention that Block 1671 lies broadly within a Wildlife Movement Corridor described in the ACT Lowland Woodland Conservation Strategy. In the amended report, the Wildlife Corridor is mentioned.

Hogg's discussion of the site's value as part of a Wildlife Movement Corridor, states "the development of the site would not cause fragmentation of the landscape." Since the site lies beside the Mugga Lane Landfill site, which is a large area with little vegetation on it, we believe Block 1671 should be considered to be of increased importance as a wildlife corridor. This is especially so, as Block 1671 joins the remnant area of woodland across the Monaro Highway at Hume. Furthermore, the project plans to remove all the dead and dying trees along the side of Mugga Lane. These trees provide valuable habitat in the area. Any development of this site will cause fragmentation of the wildlife corridor. The health of the regulated trees in this region should be of consideration here as well, since the proposed development could have a significant adverse impact on those trees remaining after development.

The Hogg report states "most of the site has a scattered cover of mature woodland trees." "along Mugga Lane frontage….tree cover is relatively dense"….with natural regeneration." "Within the horse paddocks, trees are generally in fair to good health, and there are a few patches of natural regeneration. All of the trees in the horse paddocks have been fenced individually or in small groups for protection against horse damage." All these statements indicate that the area (especially its trees) has been looked after, maintained and protected. Why subject this area to a damaging and polluting development? Why not continue to preserve it?

There are no fauna lists included with the initial Hogg report and no explanation of any methodology undertaken to assess fauna. Fauna surveys for the Hogg report took place during only one month of the year. We believe one month is inadequate to accurately assess the fauna. For example, no mention is made of kangaroos on the site which is remarkable given that the site and the surrounding area is used extensively by kangaroos. Over 2000 kangaroos[3] inhabit the Wanniassa Hills Nature Reserve and the Rose Cottage Horse Paddocks.

The 17.4 hectare site of this development forms part of essential grazing land used by the kangaroos. Building the power station and data centre will prevent the kangaroos easily accessing the horse paddocks adjoining the Monaro Highway. The kangaroos will be concentrated in the Reserve, the two adjoining horse paddocks (which contain the box-gum woodland) and the paddocks to the east of the suburb of Macarthur. This will lead to starvation and death of the kangaroos as well as overgrazing, erosion and land degradation. The kangaroo population is effectively, but not entirely, enclosed by the Mugga Lane Landfill fence (3 metres high), residential and industrial areas. A kangaroo management plan needs to be drawn up to that the kangaroos are not forced into a smaller area and allowed to starve. This is especially important considering the already high numbers inhabiting the area.

[3] April, 2008 RSPCA estimate

There would be many more animal species that inhabit Block 1671 and these need detailed and thorough assessment over different seasons. This is especially the case with reptile and bird species. We have observed small bats in the region of Block 1671 on many occasions. We have seen and heard Barking Owls in this area on several occasions. The Barking Owl, listed as vulnerable in NSW, occurs sparsely in woodlands. There are only a few records for the ACT, where it is considered to be a very rare visitor.

A small ephemeral creek is located near the western boundary and flows in a northerly direction towards Mugga Lane. There are some areas of this creek that have been fenced off and consequently the creek provides a good area of habitat. The development proposes to replace this natural creek with a cut off drain along the southern and western boundaries for stormwater, and capable of withstanding a one in 100 year flood. How big is this channel going to be? What impact will it have on landscape and trees? Again there are adverse environmental impacts to this part of the development.

There is the possibility that the proposed site is habitat for the Perunga grasshopper and the Striped Legless lizard. Both species have been recorded within 1-2km of the proposed development site, and both are known to be from similar poor quality box-gum woodland. There should be targeted surveys for these species prior to any development approval. The golden sun moth is associated with even poor quality areas of the particular grassland *Austrostipa* species found across the site.

In summary

1. We believe that the ecological assessment has not been conducted properly or to an acceptable standard;
2. The quality of the ecological assessment is inadequate and reflects the importance placed on this aspect by the proponents;
3. We do not believe the survey methodology used by Hogg in the environmental survey was adequate;
4. We do not believe that a single season survey in one month can adequately assess the environmental characteristics of a place;
5. We do not believe that proper weight has been given to the value of the Yellow Box woodland on the site and adjoining the site, within the local and national context;
6. We do not believe that the Hogg report has considered the collective impact on and around the site of all the peripheral infrastructure necessary for the operation of the power plant and data centre; and
7. We do not believe the Hogg report is independent.

For the reasons above we submit this application be rejected. In the alternative we ask for a full environmental impact statement to be prepared by independent experts using meaningful consultation with members of the community. This report should then form part of a wider inquiry which will consider all aspects of this development and its potential and real affects on the environment

Risk of catastrophic release of liquid CO2

We understand that the eight data centres (GC1*3, GC2*3, GC3*2) all use substantial amounts of liquid CO2 for cooling. Catastrophic release of this CO2 could pose substantial dangers for the people, wildlife and environment of Jerrabombera, Tuggeranong and Woden valleys.

It is not unthinkable for a catastrophic release to happen.

A telling example are the many deaths from the catastrophic CO2 release from Lake Nyos in Cameroon in 1986 [1][2][3][4].

The people of Jerrabombera,Tuggeranong and Woden should not be exposed to the potential dangers of a catastrophic CO2 release.

REFERENCES

[1] http://en.wikipedia.org/wiki/Lake_Nyos
[2] http://www.geology.sdsu.edu/how_volcanoes_work/Nyos.html
[3] http://www.newscientist.com/article/mg13518344.400-the-deadly-cloud-hanging-over-cameroon-a-lethal-gas-bubbledup-from-the-bottom-of-lake-nyos-six-years-ago-killing-thousands-of-peopleand-livestock-years-of-study-have-revealed-why-but-the-risk-of-disasterremains-.html
[4] http://www.snopes.com/horrors/freakish/smother.asp

Threat of harm

Nowhere in the PA can we see any recognition of the risk imposed on the adjacent residential community through either accidental or deliberate events resulting in health hazard. Risks here include gas leaks, explosions, fire etc.

These threats are real and occur as a result of this project. The risks need to be identified, the potential impact analyzed and where appropriate countermeasures identified, with the resultant risk levels being clearly articulated.

Failure to include this aspect in the report is in our view a serious omission.

We note (annex P) in response to this issue against the Territory Plan (Part A3) t) Impacts on public health and safety including crime prevention - the proponents have stated "*Security provided, comments will be provided by AFP through PA consultation."* We have not seen the AFP report in the PA documents. We have not seen any considered and detailed response to the issues of Public Health and Safety.

We refer back to the very real risk of terrorists attack and comment that given the proponents claim this is world cutting edge technology intended to place Canberra at the fore front of data protection, the proponents feel placing this establishment so close to residential homes and a methane producing landfill site is in keeping with their responsibilities to the community health and safety. The community does not feel it will receive any benefits from this data centre which in any way warrant placing this risk attracting centre so close to people's homes.

On behalf of those residents of the Rose Cottage health facility who cannot speak for themselves and those workers at the Rose Cottage health facility we would also like to raise the strongest objection to this power station and data centre being so close to their home. There has been no risk assessment or safety program produced or tendered to deal with any emergency affecting the safety of the residents and workers at the health facility. This is a fundamental flaw and one which should never have been omitted by the proponents. The proponents have again demonstrated their cavalier and dismissive attitude to the community and importantly to Canberra's most vulnerable residents by not considering their health, well being and safety even when they are required to.

We would be very interested to know why the proponents believe it is reasonable for the proposed development to be built within a blast range of residential homes.

Pollution concerns

Strength/limitations CALPUFF
CALPUFF is a puff model that is generally regarded superior to the AUSPLUME plume model. The US EPA approved CALPUFF for study of long range pollution transport beyond 50 km, but advises that use of CALPUFF at shorter distances requires approval by reviewing authorities on a case-by-case basis [2][3][4]:

[4] “The EPA has proposed the use of CALPUFF for applications involving long-range transport, which is typically defined as transport over distances beyond 50 km. Therefore, the use of CALPUFF for EPA regulatory applications involving transport distances of less than 50 km requires approval by the relevant reviewing authorities. As described in Section 7.2.8 of the EPA's proposed Guideline on Air Quality Models, the CALPUFF model may also be used in special cases involving complex flows on a case-by-case basis with concurrence from the reviewing authorities.”

CALPUFF uses grided data [2]. Unavoidably, finer topographic detail is lost in the griding process. This drawback has the stronger negative effects on studies of pollution in complex terrain close to the pollution source. This drawback impacts in particular on study of the effects that Isaacs Ridge and offshoot ridges have on distribution of pollution from the Tuggeranong power plant.

Evaluation of CALPUFF pollution predictions against observations and also against predictions from other models calls for vigilance in interpreting modelled outcomes. An US analysis of CALPUFF by Chang and co-workers in 2003 [5][6] found results to be heavily dependent on the wind field model used (note that the present CALPUFF study lacks on-site wind data), had a mean bias within 35%, had random scatters of a factor 3-4, and no more than 50-60% of CALPUFF’s predictions were within a factor of 2 of observations. An Australian evaluation of CALPUFF and comparison with AUSPLUME and TAPM by Dr Hurley and co-workers of the CSIRO Division of Atmospheric Research [7][8][9] documents several cases of considerable underestimation of observed pollution by both AUSPLUME and CALPUFF and also a case of extreme overestimation by CALPUFF. Hurley argues that CALPUFF should be used with caution [9].

On the strength of these evaluation studies and US EPA guidelines for usage, the outcomes of the present CALPUFF study should be treated with considerable caution. Further caution is required because the CALPUFF modelling of complex terrain effects was based on a topographic dataset that was too widely grided and too inaccurate in altitude to adequately represent the complex terrain of Isaacs Ridge.

Inadequate topographic data
The CALPUFF study underestimates effects of Canberra’s valleys and ridges on pollution hotspots. Modelling of pollutants distributions suffers from poor location and altitude sampling of the complex terrain of Isaacs Ridge and associated ridge offshoots. Terrain values are based on a US Geological Survey dataset with a resolution no better than 1 km and on a Digital Elevation Model (DEM) from Geoscience Australia with a resolution no better than 250 m. Such wide sampling smooths Canberra-type topography by reducing terrain steepness through lowering and uplifting of adjacent hill and valley sections respectively. Sampling representation is worsened by accuracy limitations of the DEM data, obtained from a fixed-wing aircraft engaged in other geophysical studies. Locations have accuracy common for 1:250,000 scale maps (Canberra maps are generally at 1:25,000 scale and some may be at 1:10,000 scale) and altitudes have an average root mean square error of 20 m and up to 200 m in steep terrain [10]. Such a coarse and crude topographic dataset poorly identifies pollution hotspots and underestimates levels of pollution.

The rationale for usage of such a coarse and crude datasets is not presented in the pollution study. The consortium may well have had access to a more refined topographic dataset. On the

second Community Consultation Meeting organised by ActewAGL (15/6/2008) a detailed drive-trough GIS panoramic study was shown on a wide screen. The level of local detail in topography was considerable and suggests that is was derived from a topographic dataset more detailed than the DEM from Geoscience Australia. Why was this more detailed dataset not used in the CALPUFF study? If CALPUFF cannot handle higher resolution datasets then it is not well suited to determine pollution distributions and pollution levels for the complex terrain of Isaacs Ridge and ridge offshoots between Macarthur-Fadden, Fadden-Wanniassa and Wanniassa-Farrer. If CALPUFF can handle detailed topographic data then available detailed datasets should be used for proper evaluation of pollution risks.

CALPUFF requires grided terrain datasets [2]. It is unavoidable that finer detail of complex terrain is lost in the griding process, irrespective of the scale of the dataset. This is a serious drawback for proper analysis of effects of pollution by nearby complex terrain, such as around Isaacs Ridge and offshoots ridges. Usage of a grided, and therefore flattened, topographic dataset in the CALPUFF pollution study unavoidably leads to underestimation of levels of pollution levels. Locations of the more substantial pollution hotspots may be less affected.

Inadequate meteorological data

The CALPUFF study relies on meteorological observations from stations at Canberra Airport and Tuggeranong Hill. This is some improvement over the AUSPLUME study that relied on data from Wagga Wagga. However, the CALPUFF study, like the AUSPLUME study, suffers from absence of local meteorological observations, covering block 1610 and other areas in the Isaacs Ridge, Long Gully Road and Mugga Lane precinct. This is a region of complex terrain, its meteorological behaviour has to be properly observed and cannot be extrapolated with sufficient confidence from other stations. Local observations should cover a substantial, representative, period. The US EPA recommends for CALPUFF studies a five year observation record:

[4] *"For a regulatory analysis, such as that supporting a permit to construct a source of air pollution, the considerations regarding the length of meteorological period are similar when applying CALPUFF in screening mode as when applying other models. The EPA's Guideline on Air Quality Models prescribes the use of five continuous years of representative meteorological data. Also, the Interagency Workgroup on Air Quality Modeling* (sic) *(IWAQM) demonstrated the year-to-year variability in CALPUFF screening impacts using a five-year meteorological period in their Phase II report. Based on this demonstration, IWAQM also recommends that five years of meteorological data should be used with CALPUFF in the screening mode in order to identify long-range transport impacts that could reasonably be considered to be the highest."*

[11] *"Five consecutive years of the most recent representative sequential hourly National Weather Service (NWS) data, or one or more years of hourly sequential on-site data."*

However, the present CALPUFF study relied on a one-year only record from an off-site location, Tuggeranong Hill.

Pollution studies on the run

Blind Freddy can see that the complex terrain of the Tuggeranong location is highly unusual for a power station and that such complex terrain requires adequate local topographic and meteorological input to safeguard local residents from adverse impacts. Yet local input is manifestly lacking in the present CALPUFF study. Use of off-the-shelf datasets in both the CALPUFF and AUSPLUME pollution studies are poor examples of studies on the run. These studies do not, and can not respond adequately, to the legitimate health concerns of local residents. ActewAGL has to collect for the specific purpose of pollution studies, local topographic and meteorological data, spanning a representative period and adequately covering the areas of concern. Anything less constitutes shoddy practices and whitewashing attitudes.

Pollution hotspots

The present CALPUFF study in all its crudeness clearly establishes Isaacs Ridge-related pollution hotspots in Macarthur-Fadden, Wanniassa, and Farrer-Mawson with a spur towards the Garran hospital [12]. There are further pollution hotspots in the upper part of Mugga Lane and in Hume. A broad swath of enhanced pollution extends from Isaacs Ridge westwards towards the Tuggeranong town centre-Kambah region and another broad swath extends from Isaacs Ridge

to southern Jerrabombera. The location of the pollution hotspots is consistent for all four pollutants studied, eg: NO_2 [12, fig. 7.1]; SO2 [12, fig. 7.3]; PM_{10} [12, fig. 7.6]; formaldehyde [12, fig. 7.8]. These pollution hotspots are most worrying, foremost for potential health effects on local residents, but also for potential local acid rain effects, and not unimaginably for possible dumping from local ridge-confined eddies of heavy Uranium particulates and/or heavy gaseous elements from Naturally Occurring Radioactive Materials (NORM's, see my objection lodged on 26/05/2008 [13]). The message is loud and clear. Better be safe than sorry. Relocate the power station away from Isaacs Ridge, onto an open plain.

Monitoring background levels at individual pollution hotspots
The same complex terrain that leads to pollution hotspots from the power station also may lead to similarly located hotspots containing pollution from other industrial and residential activities in the Tuggeranong, Woden and Jerrabombera valleys. This requires ongoing monitoring of "background" pollution levels, locally at identified pollution hotspots. Justification has to be demonstrated, not just assumed, for application of a regionally uniform background pollution level in any pollution study.

Cumulative pollution levels: background & co-generator & peaking plant
Outgoing CEO and incoming chairman of ActewAGL, John Mackay, is quoted in the Canberra Times of 21/06/2008 [14] as saying:

"After this project is sorted out the consortium will go straight back to the peaker plant"…. "*He believes there are only six sites for a peaker plant including the four which were assessed for the Tuggeranong power station. The remaining two are the former Hume timber mill and the old abattoirs at Oaks estate near Queanbeyan"*

This means five of the six sites under consideration by ActewAGL for a peaking plant are in the vicinity of the co-generator with some in the immediate vicinity. Pollution hotspots for the co-generator identified in the present CALPUFF study ─ Macarthur-Fadden, Wanniassa, Farrer-Mawson towards Garran, Mugga Valley and Hume ─ are also likely hotspots for background pollution and also for pollution from the proposed peaking plant. Residents in these pollution hotspots may have to bear the cumulative effects from two, and possibly three, sources of enhanced pollution. Very worrying are various statements by the incoming CEO of ActewAGL, Michael Costello, about increasing the output of peaking plant from 100 MW in the original proposal to 350 to 450 MW or 400 to 600 MW [15] with consequent increases in pollution.

[15] *"Mr Costello said the consortium was told three weeks ago a 100MW peaking station was commercially unviable. He said the firm spent weeks perusing other options before making the announcement to scrap the peaking station on the Tuggeranong site and scale down the data centre.""It's too small. It has to be 350 to 450 [megawatts] so that site was not suitable whether there were protests or not,"' 'Mr Costello said. He said ActewAGL was committed to building a 400-600MW gas power station in Canberra, but it would be well away from town centres."*

These kind of planning attitudes demonstrate insensitivity of ActewAGL management for the wellbeing of local residents and may border on criminal negligence.

As if three sources of pollution were not already bad enough, an ACTPLA planning report on development of the Hume Industrial Estate, obtained under an FOI request, proposes two sites along Isabella Drive, just east of Macarthur-Gilmore, as likely sites for a cemetery [16]. Possible extension with a crematorium would add a further source of pollution for the region and in particular for the above identified pollution hotspots.

Variability in polluting content of sourced gas
The CALPUFF plume study only considers a single natural gas source, it is unclear whether it represents gas from the Moomba gas field or from gas fields in Bass Strait.

Executive summary

"ActewAGL proposes to construct and operate a natural gas-fired cogeneration facility in Tuggeranong, Australian Capital Territory. This project involves installing three Caterpillar Titan 130-20501S Axial Gas Turbine Generators. ***Each unit has a rated output of 15 MW and uses***

natural gas as its sole fuel source. *The intended capacity of the facility is 28MW (actually capable of 30MW) continuous electrical generation provided by the operation of two gas turbines, the additional gas turbine will be employed as a standby."*

However, it highly likely that over the lifespan of the power plant coal seam gas from Queensland and New South Wales coal basins will be used as sources. We have previously pointed out in our objection of 27/5/2008 to variations in impurities of coal seam gas sources and in particular to higher concentrations of Naturally Occurring Radioactive Materials (NORM's) in NSW coal fields compared with Queensland coal fields. Such variability in gaseous and particulate content is not addressed in the present CALPUFF plume study, but is likely to affect content and level of pollution. Study results therefore have to be treated with considerable caution.

Gas sourced from the Moomba gas field is well known for its very high CO_2 content in comparison to other gas sources [17]. Apparently it is such an embarrassment for the operator of the gas field that SANTOS has offered to geo-sequester the CO_2 gas captured by their client consumers [18][19]. It is not clear from the present CALPUFF pollution study whether this very high CO_2 content of the Moomba gas is used in the quoted figure for the Tuggeranong power plant's CO_2 emission of 188 Kt $CO_{2\text{-}e}$/yr. It has to be clarified whether the figure used properly represents expected emissions rather than an underestimation based merely on an undisclosed average gas composition.

Inter-comparison of diverse model predictions
The CALPUFF model outcomes on distribution and level of pollution and location of pollution hotspots should not be treated as hard facts. The above concerns do warrant their usage for indicative purposes only. Outcomes of different models, such as AUSPLUME, CALPUFF, TAPM, AERMOD, that show consistency can be interpreted with greater confidence. The dangerous location of the power plant in the near vicinity of the complex topography of Isaacs Ridge system requires such inter-comparison. The CSIRO Division of Atmospheric Research has the expertise to inter-compare numerical modelling studies. Follow-up analogue studies can be undertaken at the Geophysical Fluids Laboratory of the Research School of Earth Sciences, ANU. Relocation of the power plant to an open plain environment will reduce the need for elaborate modelling studies.

Nitrogen Dioxide / Ozone
The ACTEWAGL CALPUFF Plume study results are based on assumptions about the ambient NO2 and O3 background levels in our current environment. A number of omissions have been made that could underestimate the results.

- The NO2 levels being used in the models are based on current ambient NO2 levels in our community. These levels may be a lot higher in the future as additional NO2 pollution is created by the planned future expansion around the data centre block, and the 500MW power station at Williamsdale, and possibly increases in traffic in the local industrial area.

- The original AUSPLUME Plume study made the assumption that at 100% of NOx pollution was converted to NO2 pollution at source. It was mainly this fact, in the original proposal, that resulted in the results breaching the World Health Organisation safety levels close to the facility. The new CALPUFF model has produced significantly lower NO2 pollution results nearer the source, primarily, because it assumes that the rate of conversion of NOx to NO2 is not immediate, but is dependant on the concentration of a second pollutant, Ozone (O3), in the ambient air to catalyse the reaction, as well as the amount of solar radiation.

  This background O3 level has been taken from the pollution monitoring station at Monash. What we believe has been not taken into account is that increased background N02 in the ambient air, increases the rate of production of O3, and hence the background O3 in the ambient air. We believe the CALFUFF study does not take into account that O3 levels will increase due to the NO2 pollution increasing, and then NOx and NO2 conversion will be faster, increasing the NO2 levels beyond that predicted close to the facility.

NO2 and O3 are poisonous pollutants which cause health problems. The CALPUFF study makes no predictions on O3 levels after the facility is built, although it will undoubtedly increase these

levels in the atmosphere. We call for an independent air pollution study to be produced on behalf of the residents of Canberra, and not produced by the proponents that gain to benefit from this facility.

Security of gas supply myth

The development consortium advances security of gas supply as a major reason to supply the data centres with gas-fired power. However, Australia has experienced three major explosions in gas distribution systems over the past decade alone. The Esso Longford gas explosion in Melbourne (25/9/1998 [20]) and the Apache Energy Varanus Island gas explosion (03/06/2008 [21][22]) caused major and prolonged disruption to gas supplies in Victoria and Western Australia. The Moomba gas plant, the proposed supplier of gas for the Tuggeranong power plant, suffered a gas explosion on New Years Day 2004 [23][24] that caused substantial supply problems [25].

Mining of coal seam gas is not without danger either as evidenced by the more than occasional occurrence of coal mining incidents [26][27]. In contrast, the Australian national electricity grid has no record of outages of magnitudes experienced with gas explosions as described above. This exposes the argument of security of gas supply as an unjustified, if not dangerous, myth.

Polluting power plants best located at sea-level

The Tuggeranong power plant will be located at an altitude of about 630 m and will operate in a temperature range between -5°C and +40°C. Air at 630 m of altitude is more than 7% less dense than air at sea-level [28]. The quoted temperature variations will cause a further 13% variation in air density [28]. The two effects are cumulative. On a hot afternoon, the air around the power plant could be up to 20% less dense than air at sea-level. Yet, the power plant will emit the same amount of pollutants as at sea-level. Air that is 20% less dense will thus be 20% more polluted. People breathing this less dense air will have to breathe greater volumes for the same oxygenation, thus will breathe 20% more pollution!

No data are provided regarded anticipated performance of the Titan turbines at an altitude of 630 m. Pollution characteristics may be equivalent to operation at sea-level, but could be worse.

Clearly polluting power plants are best located at sea-level where the air has optimal density and where temperatures vary within the limited range of a sea-climate. That is where the major power plants in NSW are located, namely in the lower Hunter Valley and near Lake Macquarie. Operation of a polluting gas-fired power plant at the altitude of the ACT and across the wide temperature range of ACT's land climate is a poor choice of options.

Manipulation of background pollution levels

The original AUSPLUME pollution study applied a background level for nitrous dioxide (NO_2) of 75.6 microgram/m^3. The source of this figure could not be established. The CALPUFF pollution study in the revised plan applies a NO_2 background level of 131 microgram/m^3. This represents the highest one-hour-average recorded by the Monash monitoring station during the 2003 bushfires. Capital Territory Ambient Air Quality Reports [29] data show an average background level of NO_2 for the period 1998-2006 of 89.8 microgram/m^3 (see my objection of 26/05/2008), with data for the bushfire year 2003 excluded as non-representative.

It is inconsequential to apply an unrepresentatively low background level of NO_2 in the AUSPLUME study of the original plan and an unrepresentatively high background level of NO_2 in the CALPUFF study of the revised plan. This practice reeks of data manipulation – in the original study to keep worst case scenario emissions of the larger power plant just below the NSW EPA allowable maximum of 246 microgram/m^3 – in the revised study to belittle potential health effects of the emissions of the scaled-down power plant.

ActewAGL cannot have it both ways. The CTAAQR average background level of 89.8 microgram/m^3 should have been applied in both studies.

Impost on ACT net water consumption

The ACT government and other state ministers agreed in late May 2008 to cap the ACT net water consumption from the Murray-Darling system to 40GL/yr. The revised power plant will consume 435 ML/yr in a process that re-uses heat from the exhaust stacks to drive absorption chillers. This water is said to be acquired (ActewAGL community briefing 28/4/2008) from Tantangera Dam so as not to strain the ACT's own water supply. However, buying increasingly scarce water from the Snowy Mountains, if available at all, will not be cheap.

The cooling procedure is promoted to save 9MW in power from the electricity grid. However, it is not reported that the 435 ML will evaporate and be lost, thus locking up more than 1% of the ACT's allowed net water consumption from the Murray-Darling system. Such a loss will strain water pricing by ActewAGL and will strain water restrictions in the ACT. Lost also is the potential energy of the water stored at altitude in the Snowy Mountains. The water will just flow down the Murrumbidgee or be piped down to the ACT. However, the potential energy of this water can readily be used through the Snowy Hydro scheme for generation of pollution-free power, potentially in multiple cycles of pumped storage through the Tumut-3 hydro-electric station, and the water will still be available for use within the Murray-Darling system.

Alternative purchase of 9MW of power from the Snowy Hydro scheme will buy pollution-free power, will retain the water for further use and will not strain the ACT water budget. This readily available alternative also eliminates the need to install bulky absorption chillers, steam exhaust stacks, a dedicated water storage and water pumping and transport facilities. Furthermore, absence of steam will substantially reduce fog and smog potential. This alternative also reduces pollution at ground level (scenario 3 of the CALPUFF study, pp 27) because plume rise is not restricted by the absorption chillers (scenario 1). Clearly this readily available alternative is superior by far over ActewAGL's purported clever re-use of exhaust heat.

No valid argument for co-location

The above valid arguments against operation with absorption chillers also mean that there is no valid argument for co-generation and thus no valid argument for co-location of power station and data centres [30][31][32] .

[31] ***"****Cogeneration (also combined heat and power, CHP) is the use of a heat engine or a power station to simultaneously generate both electricity and useful heat.... CHP is most efficient when the heat can be used on site or very close to it. Overall efficiency is reduced when the heat must be transported over longer distances."*

ActewAGL's argument for co-location of power station and data centres is based primarily on efficiency gained in re-using the power station's exhaust heat through absorption chillers for cooling of the data centres. A far lesser argument for co-location is reduction in transmission losses of electricity. If implementation of absorption chillers is not feasible because of the severe impost on the ACT's net water allocation, then the argument for co-location of power station and data centres will hinge solely on reduction in transmission losses. Any user of electricity and any producer of electricity faces such losses. Such losses do not constitute a valid argument for co-location of power station and data centres on the same site. As is happening anywhere else, power can be generated very effectively off-site, limiting pollution dangers for local residents.

ActewAGL's arguments for co-location of power station and data centres and the ACT's government support for a polluting gas-fired plant as the territory's first independent energy source are in stark contrast to the energy policy of the NSW government. In a policy approach that leaves ActewAGL and the ACT government squarely in the Luddite corner, the NSW government will supply energy for the Sydney desalination plant from the 63 turbine Capital Wind

Farm that is currently under construction in Bungendore [33]. This $1.7 billion desalination project is comparable in cost to the original ($2 billion) and scaled-down ($1 billion) power station cum data centres project. Energy demands of the NSW desalination plant and the ACT project are also comparable, 210/28 MW versus the output of 63 wind turbines. If the NSW project can operate with non-polluting renewable power that is generated off-site, so should the ACT project be able to operate. It all boils down to the political will to go for non-polluting power sources "*that do not produce a single kilogram of CO_2 emissions"* [34] and do not further aggravate global climate change. The NSW government's approach leaves the credibility of ACT government's climate change approach in tatters. ACT residents will suffer the polluting consequences of poor government policy.

Evident potential for upscaling

The revised plan scaled down the data centres from 13 to 8 by omitting the southernmost 5 data centres. The size of the block on offer was reduced by omitting its southernmost part. The size of the power station was scaled down to 3 turbines and 3 chillers and these were moved disingenuously about 150 m southwards and about 100 m closer to Tuggeranong residents. A secure holding area was created. Its size is large enough to fit the original 9 turbine power station. The revised plan states that the secure holding area is required for construction purposes. This looks like a smokescreen. No such holding area was envisaged in the original plan even though this required more extensive construction.

There has been no downsizing of gas pipes, water mains or high voltage power lines. They are all the same as in the original plan. Clearly, the scaled-down setup of the revised plan can painlessly be up-scaled into the originally planned set-up. Up-scaling can be extended even further and farther into adjacent parts of block 1610 that were not included in the original plan. This has transpired from communications from the deputy chief of the Chief Minister's department [35], obtained under an FOI request.

Assurances that up-scaling of the power plant would not occur at the proposed site are not believable when infrastructure is not reduced commensurate with requirements for the scaled-down power station.

Heat dissipation into adjacent bushland

Co-location of the gas-fired power station and the data centres means that both the heat from the electricity generation and the heat from the electricity consumption are dissipating at the same time at the same location. This is a highly unusual situation. The power station will generate from at least 2 turbines at least 28 eMW for use by the data centres. Further energy equivalent to another 9 eMW will be generated from the absorption chillers. According to Canberra Technology City's documentation on co-generation, handed out at the second Community Consultation Meeting (15/06/2008 [36]), 98% of this 37 eMW will dissipate as waste heat from the data centres. This heat hardly can dissipate upwards into the plume of hot exhaust gasses. It will have to dissipate mainly at low levels into the surrounding environment of timbered broadacre land and bushland reserve. The amount of heat dissipating from nearly 37 eMW on a 24/7 basis is substantial and represents a sizable portion of electricity consumption by Canberra residents (possibly more than 30% although factual data on electricity consumption in the ACT are hard to come by for commercial-in-confidence restrictions). ActewAGL's revised development application does not address the existence, shape and magnitude of a local heat-island, nor what effects such a temperature hotspot may have on local flora and fauna and on bushfire risks.

Note that the original site investigation report prepared by Bill Guy & partners, dated November 2007, is included in the revised plan without modification. The report states that a water flux of 60 l/sec is required. This would mean ~1.9 GL on a yearly basis. Clarification is required whether the figure of 435 ML/year quoted in the main report supersedes the figure of 1.9 GL/year and also supersedes the figure of 0.6 GL/year quoted in the original plan. If a peak supply of 60 l/sec is required for fire fighting purposes then it should be clarified whether co-location of the gas-fired

power station and the data centres and consequent formation of a ground-level heat-island would increase the potential for fires in the data centres.

Greenhouse gas emissions

Emissions from the power station are estimated at 188 Kt $CO_{2\text{-}e}$/yr. This is promoted as a reduction of 56% in emissions compared with power obtained from the national electricity grid. It is also promoted as a mere 0.0336% of total Australian greenhouse gas emissions for the 2005 inventory year, estimated at 559.1 Mt $CO_{2\text{-}e}$.

This promotion reads as if the world is not facing an unprecedented climate crisis. If CO_2 emissions could be kept at their current level, it is now widely accepted that a global temperature rise could be contained to 2 °C and a sea-level rise to 6 m. The severe effects of such global changes are hard to imagine. Rise of emissions beyond these dire predictions are to be avoided at all cost. The federal government has committed to a 60% reduction in CO_2 emissions against 1990 or 2000 levels [37] and the upcoming Garnaut Report is anticipated to call for even more stringent reductions of 70% to 90%.

It is therefore more proper to describe the power station's greenhouse gas emissions (188 Kt 188 Kt $CO_{2\text{-}e}$/yr /yr) in terms of a 100% increase in emissions compared with non-polluting renewable energy options and in terms of 0.336% of the reduced Australian greenhouse emissions called for in the Garnaut Report.

If the ACT is going to **increase** its greenhouse gas emissions when emissions need to be **reduced**, other states will have to make greater sacrifices! Non-polluting renewable energy options are available (see my objection of 26/05/2008 and below) and can be pursued by a more forward looking government. The polluting option advocated by ActewAGL would not come cheap, at an estimated 20$/t to 40$/t the 188Kt $CO_{2\text{-}e}$ emissions would come at a yearly cost of 3.8 to 7.2 million dollar. Such costs alone would make renewable energy options attractive.

Renewable energy alternatives

We have addressed in our objection of 27/05/2008 renewable energy options as follows:

- Geothermal heat pump
- Solar photovoltaic
- Solar thermal
- Geothermal, Hot Fractured Rock

The ACT has a further non-polluting renewable energy option available, by using the Cotter catchment to generate hydro-electric power. The Cotter catchment has three dams: Corin (70.9 GL), Bendora (11.5 GL) and the Cotter (3.9 GL) [38]. Head between the Corin and Bendora dams is 173 m and head between the Bendora and Cotter dams is 280m [39], well in excess of the head of the Tumut-3 dam (150.9 m) which can deliver 1500 eMW [40]. The Cotter dam will be enlarged to 80 GL. This offers an opportunity to install a hydro-electric power station. Pumped storage from the Cotter dam into the Corin and/or Bendora dams could better aerate the proposed recycled water supply [41] from the Lower Molonglo sewerage treatment plant [42].

Lip service to renewable energy and climate change

The ACT government as 50% owner of ActewAGL is paying lip service to setting and pursuing renewable energy targets and to combating climate change. Its budget papers for 2008-2009 [43][44] promote investments of 100 million dollar over the period 2008-2012 *"To Meeting the Challenges of Climate Change"* [44]. This works out as primarily an investment in tree planting (~36%), with a mere 0.4% investment into unspecified renewable energy targets, and a mere 0.07% investment into a solar farm feasibility study. In contrast, the ACT government as part

owner of ActewAGL was, and still is, prepared to invest the ten times larger amount of 1 billion dollar into a polluting gas-fired power station. This disparity in financial commitments is astounding on the mere figures alone. It is even worse considering the additional damage to regional and local flora and fauna that may derive from acid rain emanating from the polluting gas-fired power station. This disparity in financial commitments certainly gives the lie to the ACT government's claim of:

*"**A Proven Commitment to Sustainability.** The Government has worked to improve sustainability since 2001-02, implementing wide-ranging actions to address climate change and committing to a reduction of 60 per cent of emission levels by 2050."*

It is telling observation that whilst the ACT government keeps promoting a polluting gas-fired power station, the premiers of Queensland and Victoria and a high-level government delegation from Western Australia are touring western North America inspecting solar thermal power stations in anticipation of construction within Australia [45].

Land planning priorities require reassessment

The Hume Industrial Land Planning study [16], made available under a FOI request, proposes extension of the Hume industrial estate towards Tuggeranong suburbs, so close that a planned cemetery is to be used as a buffer between industrial development and residential suburbs.

[16] *"This study has identified Area 8E to the east of Monaro Highway as potential developable land for a cemetery site and recommends that this site be subject to a planning variation that amends the Territory Plan map and written statement 'B8'. It is proposed that Area 8E to the east of the Monaro be varied to accommodate Industrial Precinct 'a' land uses. Such a Territory Plan variation would consolidate the stretch of industrial development along the Monaro Highway, whilst also increasing the area of land available for general industrial development. The section of Area 8E to the west of the Monaro could retain its current land use zoning status or be rezoned to a broadacre land use, making provision for an alternative cemetery site. This form of land use preserves the heritage significance of Rose Cottage and provides a visual and aesthetic buffer between the Hume Industrial Area and neighbouring residential developments."*

Canberrans may well argue that a cemetery deserves more respect than to function as a buffer between industrial development and residential development.

Planning for extension of industrial development very close to Tuggeranong suburbs starkly contrasts to planning for nature reserves in the ACT, in particular for the Callum Brae Nature Reserve in Symonston [16][46]. Part of the proposed Callum Brae Nature Reserve is open plain land at considerable distances from ridges. Such land would be far better suited for a power station than the proposed location on Tuggeranong block 1610 near to Isaacs Ridge.

There may well be perfectly good arguments for safeguarding threatened flora and fauna in proposed nature reserves. There are also perfectly good arguments to safeguard the wellbeing and health of Canberra residents. Canberra planners may have to revisit their arguments for planned extension of an industrial estate cum power station up to the border of Tuggeranong suburbs, whilst planning at the same time for preservation of nature reserves in open spaces that are well away from suburbs and that are seemingly well suited for industrial development.

Acid rain dangers

Our objection of 27/05/2008 details the potential of a gas-fired power plant to cause acid problems within the ACT, adjacent NSW and the Kosciusko and Namadgi National Parks. Our concerns related to a proposed 210 MW gas-fired power plant. The present proposal for a 28MW power plant (45MW capable) and a just announced plan for a 500 MW power plant on the ACT-NSW border near Williamsdale [47] seriously aggravate the potential for development of acid rain. In absence of substantial limestone deposits, the region has little capacity for alkaline

buffering and acid rain problems could gallop out of control. Alternative energy sourcing from non-polluting renewable energy sources needs serious consideration.

Environmental impact statement

The points discussed above call for a rejection of the application and in the alternative call for a full and independent Environmental Impact Statement to address specifically: dangers of pollution hotspots caused by locating the co-generator close to Isaacs Ridge; impost of the absorption chilling process on water supply to the ACT; potential for development of acid rain problems in the ACT, neighbouring NSW and the Kosciusko and Namadgi National Parks.

It is inconceivable that ActewAGL has not carried out its own Environmental Impact Satement, given the proposed location of the power plant as close as about 660 m to Macarthur residents. ActewAGL's failure to carry out such a study is the more surprising with ActewAGL's outgoing CEO, John Mackay, stating on ABC Local Radio (25/06/2008) words to the effect that a proposed 500 MW peaking plant at Williamsdale is located " *about 6 kilometer from the few nearest residents"* and *"probably needs an EIS"*! [48].

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[46] http://apps.actpla.act.gov.au/spatialplan/maps/index.htm
[47] http://www.abc.net.au/news/stories/2008/06/25/2284823.htm
[48] ABC Local Radio, Ross Sully interview of John Mackay on 25/05/2008 at ~8.45 am. Record available from ABC Tape Sales.

Further issues regarding pollution

The PA provides a fair amount of information about the potential plume impacts. We note that the main sources of climate data are Canberra Airport and Bargo NSW with pollution data from Monash included. The data used is 2003 data.

1) We are concerned that the report works in terms of averages and maximums. We would have expected that the relevant standards have a recommended range specified and the report should advise not just if we are at an average or a maximum but if we are expected to remain in an absolutely safe range.

2) The local climate at the proposed Macarthur site is significantly different from the Canberra Airport and Bargo sites used for the Preliminary Assessment. As the last month has shown, this actual area is frequently boxed in by low cloud and fog with a high wood smoke level. In the last two weeks Fadden has been shrouded in cloud and dead still fog till 2PM in the afternoon on a number of occasions. The wood smoke is strongly present and has been an ongoing problem for some time in this area. The daily addition of 500 tonnes on gas emissions into that dormant fog/smog base is a very serious concern. The fact is that Canberra Airport does NOT have the fog lock in around the ridges and that Bargo with a much smaller population does not have a comparable fog/ wood smoke/ ridge/temperature combination.

3) The use of Monash air quality data for 2003 is also of concern. Again Monash has much less frequent fog/smog lock-in and is much more in the open than the Fadden/Macarthur and Isaac areas. In addition use of 5 year old data for air quality is a concern as the valley area has grown significantly in cars, houses etc in the last 5 years.

4) We see no inclusion into the background pollution forecasts of future growth in the adjacent areas (i.e. the three valleys adjacent to the proposed facility)

5) Of very serious concern to the community is that the report shows many homes in a few areas of pollution likely to be higher than the surrounding area. While the growth in pollution due to the proposed development is generally forecast in the PA, there is no information as to the current background pollution levels in place near these hot spots. A Monash baseline is assumed and estimates are provided for a limited number of installed receptors. Thus we have no way of knowing if we are already significantly polluted and whether the increase in forecast pollution will put our health at real risk. The project should not proceed unless we know what the impact on our health will be.

6) The following extract from 4.2.2 in the PA is of significant concern:

> During the operation of the gas turbines, there is a potential for oil to enter the atmosphere via oil vaporising within the system and venting to the atmosphere. To minimise the amount of oil vapours entering the atmosphere, the gas turbines will be fitted with a demister or coalescing filter. The purpose of the demister or coalescing filter is to entrap potential pollutants and thus protect the environment from oil vapour emissions. The type of demister or coalescing filter will be determined in detailed design. Further information on the type of demister will be provided to Environment ACT.

This escape oil vapour potential is a serious issue yet it is deliberately not dealt with in this report. Its impact, the extent of the potential problem etc are not discussed neither is the potential mitigation via the mentioned filter. The reason why the filter information is being kept for Environment ACT is also of concern. Again this project should not be considered for approval until all risks are identified and mitigated appropriately and acceptable to the community that is to be impacted. **It should certainly not proceed with a pollution source not even discussed in any meaningful form within the PA.**

Heritage report

CBR Ellis (page 23) in the main document of the PA, summaries the conclusions of the heritage report as "*The heritage report of Appendix H* [sic] *makes appropriate recommendations for the collection of artefacts and procedures to be implemented during the construction phase"* . Besides that appendix H is the parking and traffic assessment and the heritage assessment is at appendix F - this is a grossly misleading conclusion which cannot be drawn either from reading the report in full or indeed solely focussing on any aspect of the four recommendations proffered by the author Mr Alistair Grinberg.

What Mr Grinberg primarily recommends is : "*The Aboriginal sites recorded as Block D-1 and Block D-2 should be included on the ACT Heritage Register, under the Heritage Act 2004."* .He goes on to his second recommendation "*impacts upon the sites recorded as HA16, Block D-1 and Block D-2 should be avoided by the proposed development of a gas fired power station and data centre"* According to the site plans and the map provided by the heritage study, these areas are intended to be built on by the power station and data centre.

Mr Grinberg's reference to sensitive removal of artefacts refers only to *"the archaeological monitoring of potential archaeological deposits Block D-PAD1 and Block D-PAD2" [which] " should be undertaken concurrent with the mechanical removal of surface deposits associated with any development works within these areas". ".....it is possible that low density sub-surface deposits of Aboriginal cultural material may be present at these locations. As a result archaeological monitoring of the mechanical removal of surface deposits is considered warranted"*

In the body of his report he states "*Based on the indicative characteristics for the site location identified above. This, combined with the fact that an artefact scatter (HA16) has been previously recorded within Block D suggest that there is a high likelihood that additional flaked stone artefact scatters are likely to be present within the block D study area"*

Mr Grinberg is supported in his view that this area is of archaeological significance, by Ms Helen McKeown, Conservator Liaison and Environmental Co-ordinator, Environment and Recreations. Ms McKeown has commented consistently on this application and on the Hume Industrial Study in reference to this block of land as being of cultural significance. On 28 February 2008, after the publication of Mr Grinbergs report, Ms McKeown in an email to Deedman in reference to Tuggeranong Block 1671 stated:

"*There are a number of registered archaeological sites both within and adjacent to Block 1671 including surface artefact scatters (registered Aboriginal sites HA14, HA15, HA16, HA17, HA18) and a large area of potential archaeological (Hume PAD6).* [sic] *These sites were located during a survey by Matthew Barber in 2000, report titled "Cultural Resources Survey of Hume and Adjacent Areas" and would require further investigation if they were to be impacted by the development."*

We submit this is an area of archaeological significance and specifically the areas within the block are designated areas under the Heritage Act. This entire area needs further detailed study and protection rather than be decimated by this private consortiums power station, office blocks and data centre which could be reasonably placed elsewhere, in a more appropriate site.

This application should be rejected on the basis this block is of archaeological significance and value to all Australian people

Bush fire report

Of particular concern is the Bushfire Risk Assessment at Appendix E to the Proposal. This assessment is superficial and contains numerous omissions and inaccuracies and as such it should not be used for purposes of decision making for town planning.

The eddying effect of prevailing winds over hills does not appear to have been considered. Attached is a diagram depicting the eddying effect that results with air moving laterally (at 90 degrees) to the direction of the prevailing wind. Our concern is that easterly winds will result in an eddying effect along the western slopes of Isaacs Ridge, which may result in the development of 'hot' spots of harmful pollutants.

By way of background, at the strategic level Australia has known natural hazards of drought, bushfires, floods and cyclones. The bushfire hazard is most prevalent in the south-eastern corner of the continent. This is a known fact. In the ACT context, Canberra was planned with swathes of bushland separating its satellite towns, such that Canberra is internationally known as the bush capital. It is on record that Canberra regularly experiences bushfires, from both natural and human causes. Periodically a bushfire occurs that due to its major conflagration or disastrous effects, it is regarded as being of historic proportions. In the ACT context, Ron McLeod illustrates bushfires of this nature at Appendix E of his Report into the operational response to the January 2003 Bushfires; an extract of this appendix is attached. It is worth noting that three of these fires either directly threatened or affected the subject block. Lastly, it is relevant that grassfires are notorious for their speed of travel; this is due to a number of reasons that I will not go into in this letter. Suffice to say, firefighters often have difficulty in gaining access to grassfires and in extreme conditions difficulty in keeping up with them.

The specific reasons for our concern with the Bushfire Risk Assessment are:

• The proposed facility is sited in one of Canberra's major vegetation corridors, one that separates Woden from Tuggeranong. It is relevant that there is no other major infrastructure in this vegetation corridor. Any submission to infill the corridor would be inappropriate and should not be entertained.

• The Woden-Tuggeranong vegetation corridor has a history of suffering extensive damage from major bushfires. Attached are extracts from the McLeod Report, these maps are inside the front and back covers. The first map shows the status of the fires on 8 January and second map shows the spread of (area covered) by the fires on 18 January. The fires reached the eastern extremity at about 8 P.M. and did not progress further along the corridor due to a change in the weather conditions, which is normal for that time of day. Had the fires reached this extremity earlier in the day then potentially Block 1671 would have been under direct threat.

• The McLeod Report shows that the most recent 'major fire that threatened the subject area was the January 2003 bushfires, before that the 1984-85 bushfires (which were deliberately lit by an arsonist), and before that the 1951-52 bushfires. A diagram centred on Block 1671 and showing the immediate surrounding areas as affected by each of these fires is attached. Clearly, there is a history of major fires occurring in the area of the subject block.

• The Assessment summaries that "should a bush fire occur in the area surrounding the subject site that it would be of a comparatively low intensity...” is an optimistic assessment; neither history nor the Report's own findings support this assessment. For example, the "Expected Fire Behaviour” modelling on page 8 of the Assessment provides a Fire Danger Index of '80'. The associated FDI guidelines (copy attached) rate this FDI with the following characteristics:

• "Extreme" in terms of difficulty to suppress

• the rate of spread being 9 km/h

• that in ½ an hour the rate of spread will be about 170 hectares and after 1 hour about 1,000 hectares, and with an average final size of fire being 10,000 hectares

• a flame height in average pasture of 6.0 metres.

Clearly, these are not the characteristics of a 'low intensity' fire.

• The Assessment cites the Strategic Bushfire Management Plan v1 in supporting that the subject block is in an area considered to be of low risk to bushfire attack. This is not correct. The SBMP v1 Maps 3, 4 and 5 (copies attached), which are entitled "Risk Assessment Where Fires Start", "Risk Assessment - How Fires Spread", and "Risk Assessment - Potential Consequences", respectively show that the risk of a fire starting in the area is low, however, once a fire has started it has a high risk of spreading and an even higher risk of causing damage to property and the environment.

• It should be noted that the Maps cited in the SBMP v1 are based on the "Highfire Risk: Fire Size-Class Transition Model" (copy attached), this model provides five levels that bushfires may transition. Importantly, the maps in the SBMP v1 are based on the lowest level (i.e. "Small fires"). Any assessment of fire risk and behaviour that cites the SBMP v1 should accordingly cite that the level of fire is based on the lowest level of behaviour, and that a bushfire may exhibit much higher levels of behaviour with very different characteristics. The Assessment does not refer to the Transition Model or the levels of fire size-class.

• At section 8 "Expected bushfire behaviour" the Assessment cites use of the CSIRO grassland Mk 3. It should be noted that the Mk3 is not used in the ACT as it is regarded as being out of date. Rather, the McArthur Grassland Fire Danger Meter Mk4 and Mk5 are used (copies attached). When the Assessment's data for wind speed, ambient temperature and relative humidity are entered into the Mk4 and Mk5 meters calculations of 71 'extreme' and 41 'very high' respectively are obtained. Importantly, the Assessment does not include a value for 'grass curing (0-100%)'; this is a major shortcoming. Nor does the Assessment address the 'drought factor'. This is an important factor when determining likely fire behaviour and again its omission is a major shortcoming. Notwithstanding, all meters indicate that the Fire Danger Index for the values entered provide results of "very high" to "extreme". While stating a result of '80' - "extreme" - the Report does not appear to place any significance on this result. It should.

• Section 3 "Methodology" states that the evaluation is based on A53959 which is entitled "Construction of Buildings in Bush Fire Prone Areas". An abridged version of the Standard is attached. It should be noted that the ACT does not have local guidelines for this Standard, therefore the Report appears to use guidelines promulgated by the NSW Rural Fire Service. As an aside, we find it curious that the standard for building in a "bush fire prone area" is used in the assessment, particularly as there is no prior discussion or indication of the risk of bushfire to the subject area or block.

• The NSW Rural Fire Service guidelines for 'Planning for Bushfire Protection' (copy attached) are extensive and informative. They include six key measures for consideration:

• Asset Protection Zones

• Access

• Building Construction and Design

• Water supply and utilities

• Landscaping

• Emergency Management Arrangements

Of these measures, the Assessment only mentions "Building placement" under section 10. Indeed, the Assessment makes recommendations to alter the current layout. The recommendations are entirely consistent with the NSW RFS guidelines and therefore are readily supported. However, the recommendations have not been adopted in the broader proposal.

• Section 5 "Block and vegetation description" and section 6 "Slope" both cite "The study area for this assessment is 100 meters surrounding the subject block". This is a very localised and narrow view of the threat of bushfire to the subject block. Moreover, the Assessment does not mention the need for planning as per the NSW RFS guidelines for bushfire protection. The NSW RFS guideline entitled "Introduction" advises "Eighty percent of homes destroyed by bush fire are built within 100m of bushland." Logic suggests that this includes other types of buildings. Importantly, the Proposal's Appendix A "Site Plan" shows a "Bushfire Buffer Zone" with a width of 15m. The NSW RFS guidelines, and common sense, would suggest that this width is not sufficient: it offers too little room for effective protection from the effects of bushfire and would effectively constrain firefighters and use of their vehicles and equipment in providing defensive property protection.

• The NSW RFS guideline for "Asset Protection Zones" (copy attached) states:

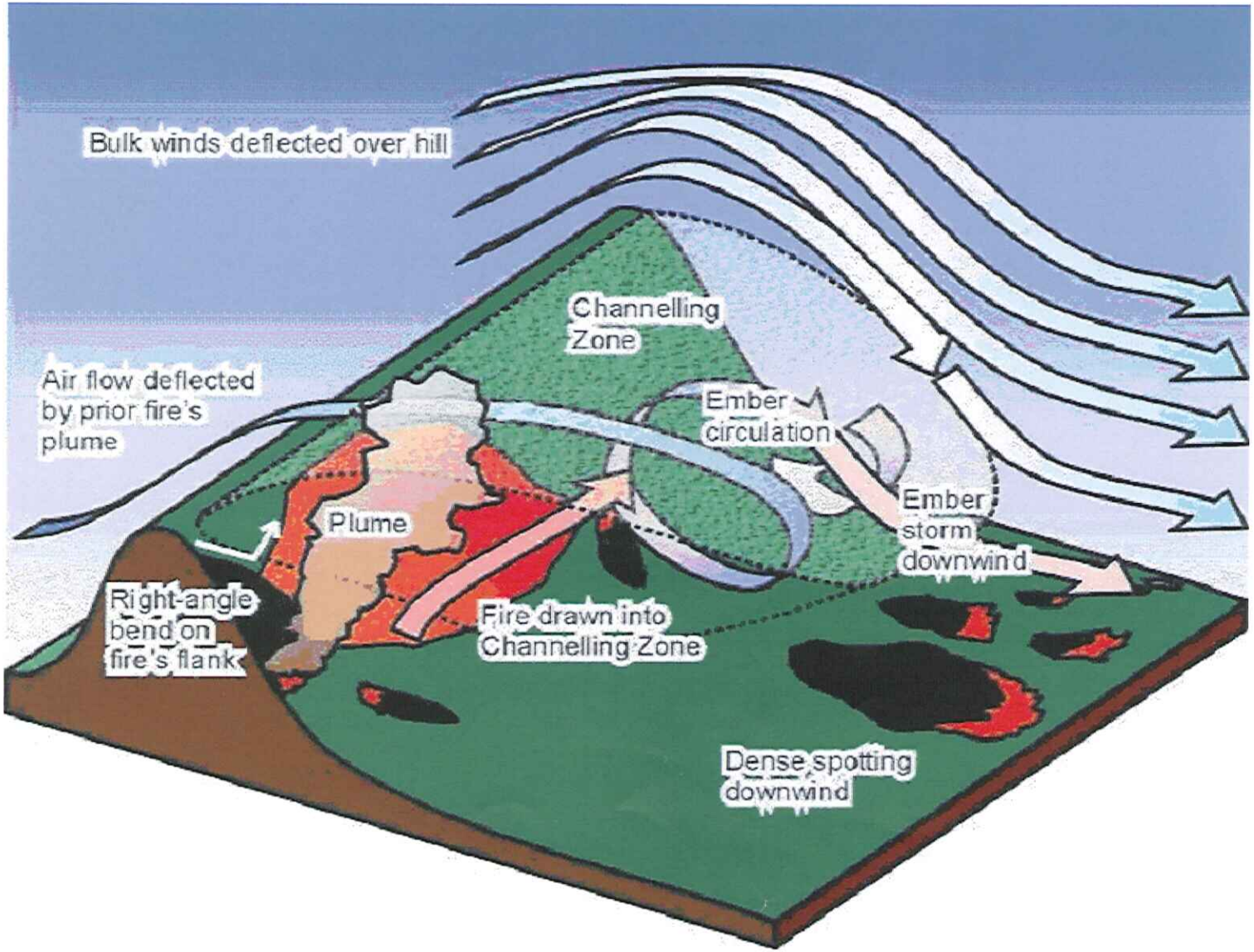
• "An asset protection zone is often referred to as a fire protection zone and aims to protect human life, property and highly valued assets and values. It is a buffer zone between a bush fire hazard and buildings, which is managed progressively to minimise fuel loads and reduce potential radiant heat levels, flame, ember and smoke attack on life and property."

• "An APZ consists of an Inner Protection Area and an Outer Protection Area'

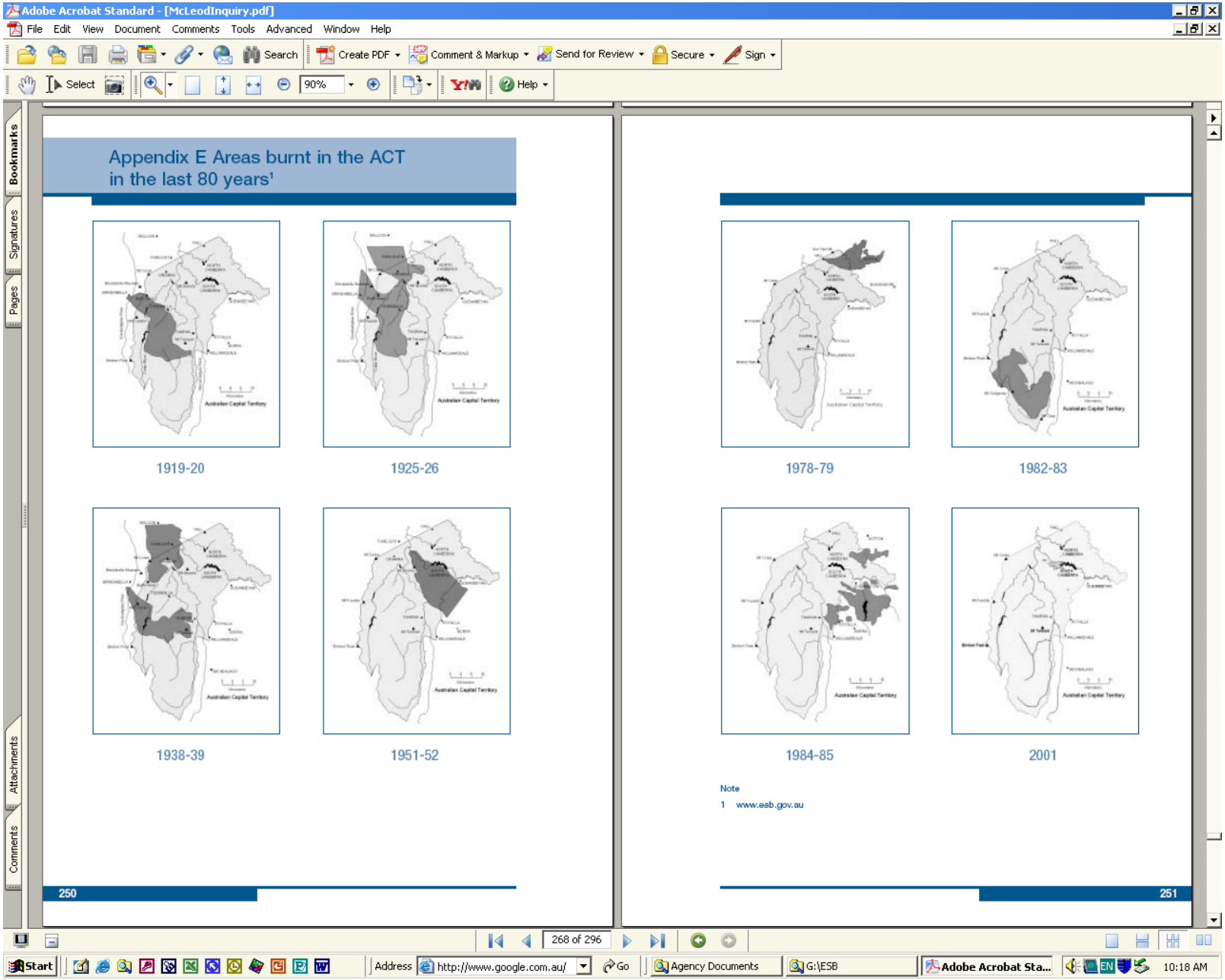
• “An APZ should be located wholly within the subject site. Developments should not offset APZ to neighbouring land unless exceptional circumstances apply. You cannot clear vegetation on a neighbour's property or on lands administer/owned by National Parks, the Crown or under the management of your local council without written consent from the owner (an easement or plan of management)."

In the case of Block 1671, to extend the APZ to adjoining blocks would effectively lead to a much increased footprint of the land required for the development to proceed. This has not been indicated to date.

The NSW RFS guidelines also provide for 'landscaping’ and state: "... the best planning can be undone by poor maintenance and lack of forethought when landscaping a development." The guidelines place particular emphasis on the need to plan carefully the location of trees and other forms of vegetation within the APZ. In the context of landscaping and bushfire management, two aspects of the proposal concern us. First, the proposal's landscape plan indicates extensive use of trees within the site, and second, a recent media announcement by the Head of ActewAGL indicates that the surrounding area will be planted with trees to reduce the visual impact of the development. Collectively, this approach will increase the fuel hazard surrounding the site and reduce the mobility of firefighters on the site. Both actions are clearly at odds with the NSW RFS guidelines.


Bulk winds deflected over hill
Channelling Zone
Air flow deflected by prior fire's plume
Ember circulation
Ember storm downwind
Plume
Right-angle bend on fire's flank
Fire drawn into Channelling Zone
Dense spotting downwind

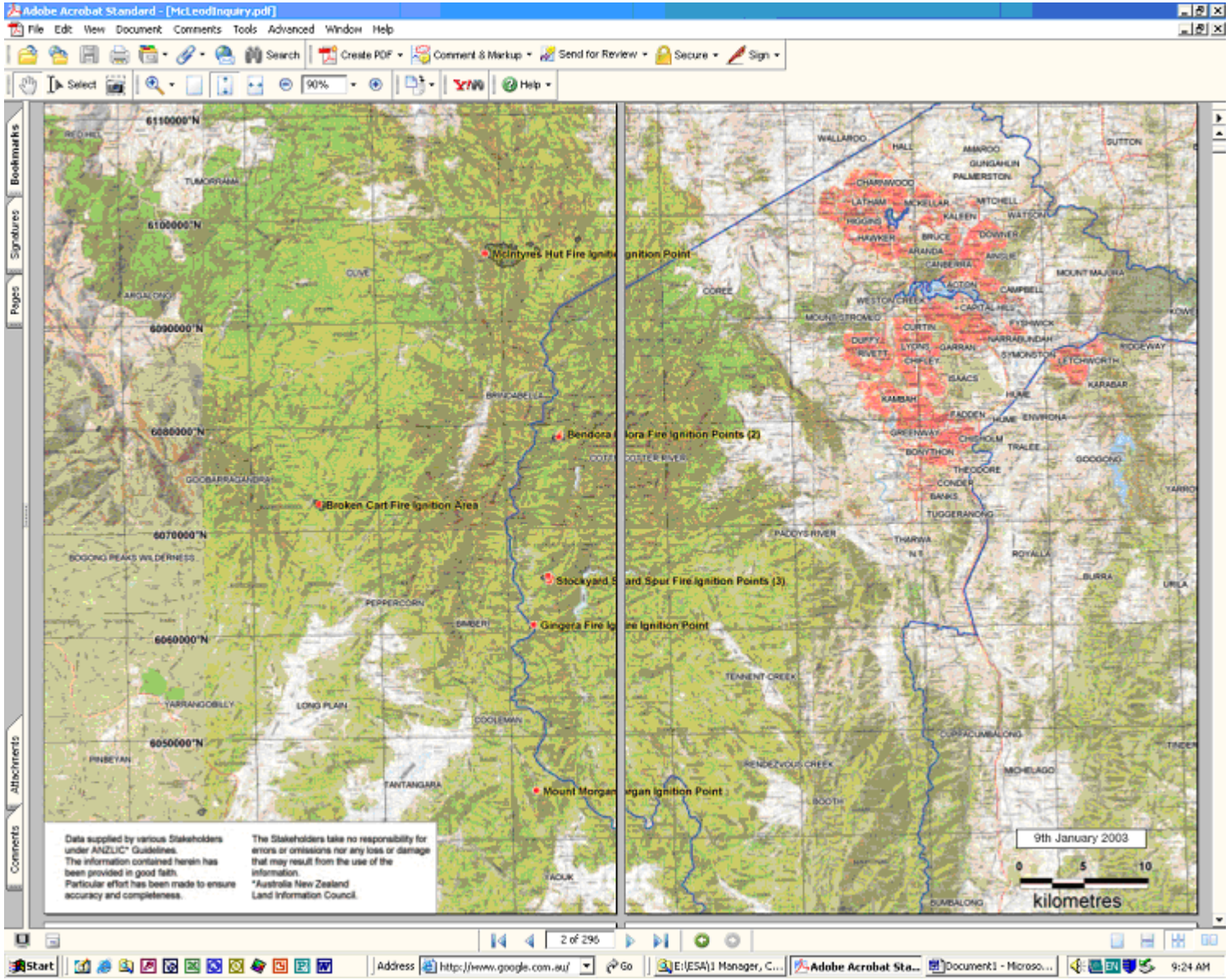
Extract – Ron McLeod, *Inquiry into the Operational Response to the January 2003 Bushfires in the ACT*, 2003, Appendix E, pp.250-251



Map shows extent of bushfires in 1951-52 and 1984-85, both fires caused extensive damage in area of proposed development of Block 1671 Tuggeranong.

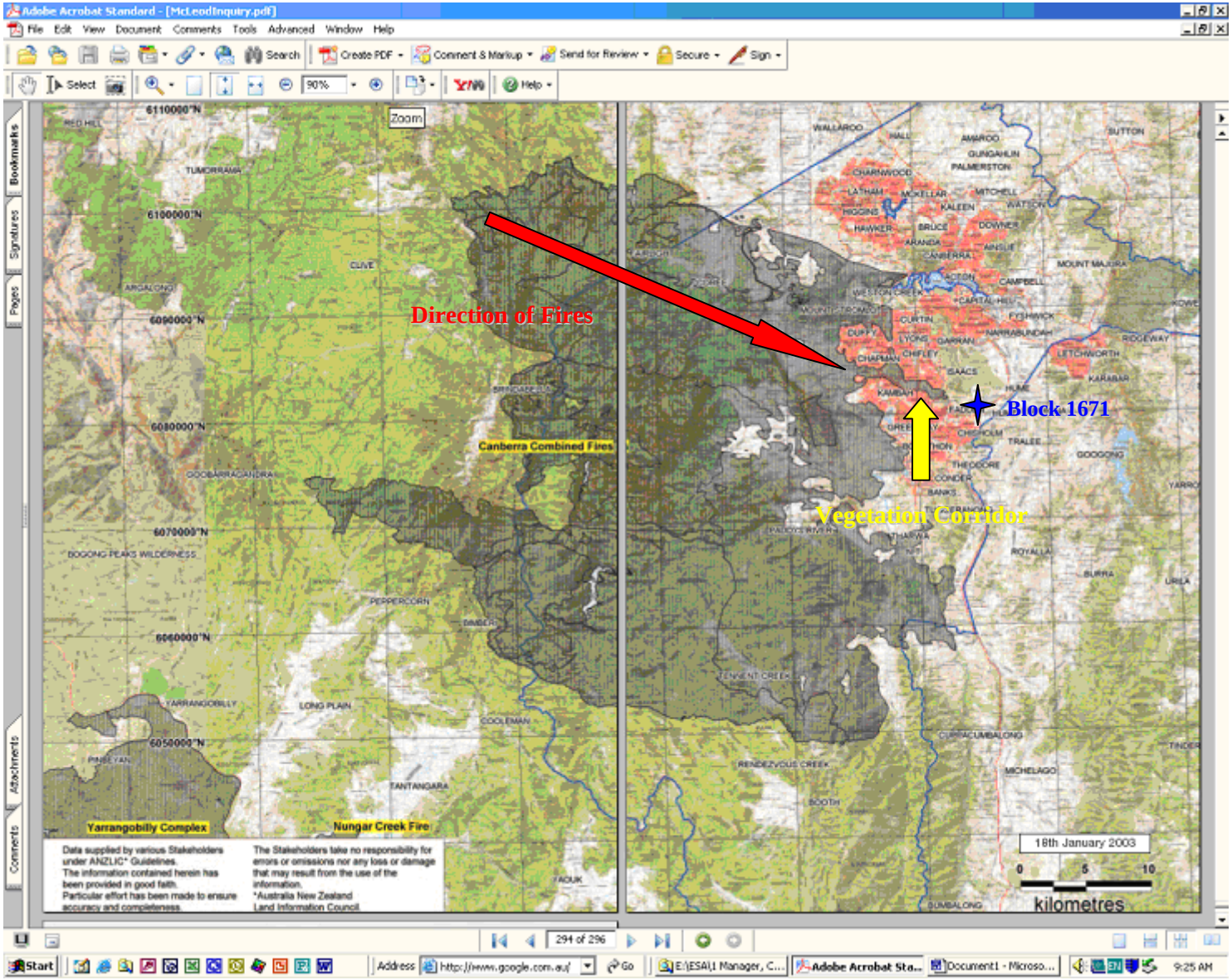
Extract – Ron McLeod, *Inquiry into the Operational Response to the January 2003 Bushfires in the ACT*, 2003

Inside Front Cover:



Extent of bushfires 9 January 2003

Inside Read Cover:



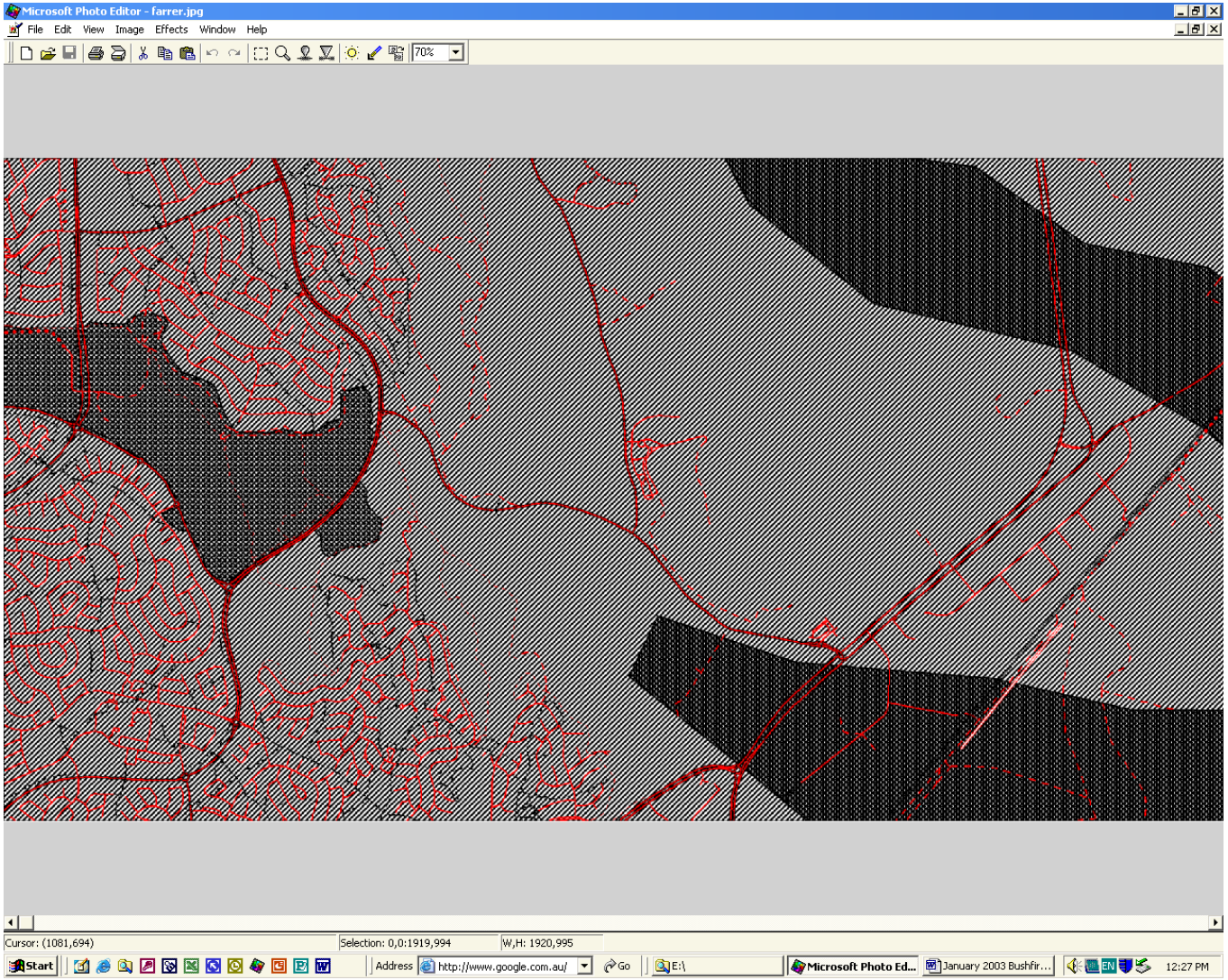
Extent of bushfires 18 January 2003

The bushfires travelled in a southeasterly direction over a distance of 40 km in 10 days, the majority of this distance was travelled on a single day – 18 January 2003

The burnt out area (depicted in grey) clearly shows the extent of bushfire damage to the Woden / Tuggeranong vegetation corridor.

Bushfires in the Woden – Tuggeranong Vegetation Corridor: Localised to Block 1671 Tuggeranong

Fires of historical proportions in the Woden / Tuggeranong vegetation corridor, specifically in the areas around Farrer, Isaacs, and Fadden



Light Grey – 1951-52 Bushfires

Dark Grey – 1984-85 Bushfires

Mid Grey – 2003 Bushfires

GRASSLANDS FDI's - Fire Behaviour Relationships

With an index of 1 or 2 fires will either not burn or burn so slowly that control presents little difficulty. At an index of 100 they will burn so hot and fast that control is almost impossible.

The intensity of a fire and its difficulty of control is also affected by the quantity of grass in the pasture. Heavy pastures burn faster and with a greater intensity than light pastures. In addition the finer the grass the faster a fire will travel.

The rates of spread are average values for fires in annual and perennial pastures carrying a continuous body of fuel and occurring on level to undulating ground. Spread rates will be less than indicated in sparse, discontinuous pastures and will also vary according to topography.

FIRE DANGER INDEX	RATE OF SPREAD (km/h)	DIFFICULTY OF SUPPRESSION	MAXIMUM AREA AT VARIOUS TIMES FROM START (hectares)**				AVERAGE FINAL SIZE OF FIRE (hectares)	FLAME HEIGHT (Meters) IN		
			½ hr	1 hr	2hr	4hr		Sparse Pasture	Average Pasture	Heavy Pasture
2	0.3	**Low**. Headfire stopped by road and tracks	3	20	80	320	3	0.3	1.0	3.0
5	0.6	**Moderate**. Head attack easy with water.	6	40	160	640	16	0.6	2.0	3.5
10	1.3	**High**. Head attack generally successful with water	15	90	360	1440	65	1.0	3.0	5.5
20	2.6	**Very High**. Head attack will generally succeed at this Index	35	210	840	3360	450	2.0	3.5	7.0
40	5.2	**Very High**. Head attack may fail except in favourable circumstances and close back burning to the head may be necessary	80	480	2000	8000	2400	2.5	5.0	9.0
50	6.4	**Extreme**. Direct attack will generally fail. Backburn from a secure good line with adequate manpower and equipment. Flanks must be held at all costs.	105	630	2500	10000	4000		5.5	10.0
70	9.0		170	1000	4000	16000	10000		6.0	11.0
100	12.8		300	1800	7000	28000	32000		7.0	13.0
**Note: This assumes that the head fire burns unchecked. suppression action which is only partially successful wil reduce these areas.										

Degree of Curing:

The amount of greenness in the pasture or degree of curing is estimated visually for large areas. 100% cured is when all pastures are fully cured and there is no green material at all. When using the meter for estimating fire behaviour over broad areas, an aerial inspection is often the best way to determine a general degree of curing for the area. Some grass species such as wild oats or barley grass will be fully cured while other species will only be partially cured. Always ensure that the degree of curing is appropriate to the area under consideration. For small areas, curing can be estimated by taking a handful of grass and expressing the amount of dead stalks as a percentage of the total.

The Effect of Slope:

The rates of spread given by the meter apply to level or gently undulating ground. Over short distances the effect of slope is very pronounced. The rate of forward spread will double up a 10 degree slope and will be four times greater up a 20 degree slope. The rate of spread will be correspondingly reduced on a downslope, **except that massive fire whirlwinds are likely to develop under severe burning conditions**.

Wind Speed:

Is measured at a height of 10 m in the open and refers to the average wind speed (over 10 minutes).

When the wind is gusty, fire behaviour will be erratic, particularly in fine fuels which respond rapidly to 'changes in wind speed.

Perimeter Increase:

For all practical purposes, the perimeter of a grassfire can be taken as 2.5 times the forward spread, e.g. if the forward spread is 10 km/h, the perimeter spread will be 25 km/h.

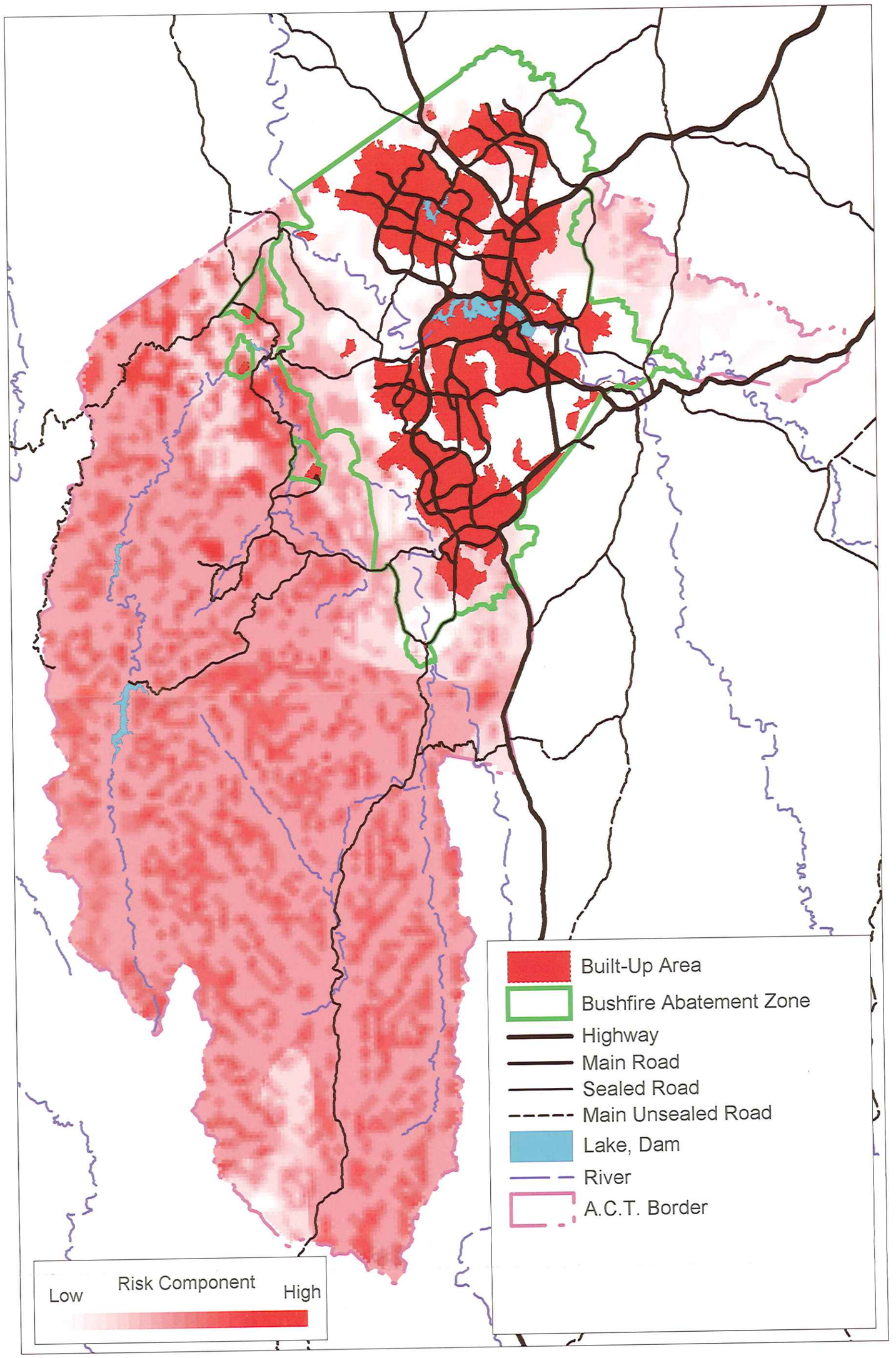
Area Increase:

The area of a fire increases as the square of the burning time, e.g. the area at 4 hours from start will be 16 times the area at 1 hour. This indicates the need for very fast initial attack and quick control.

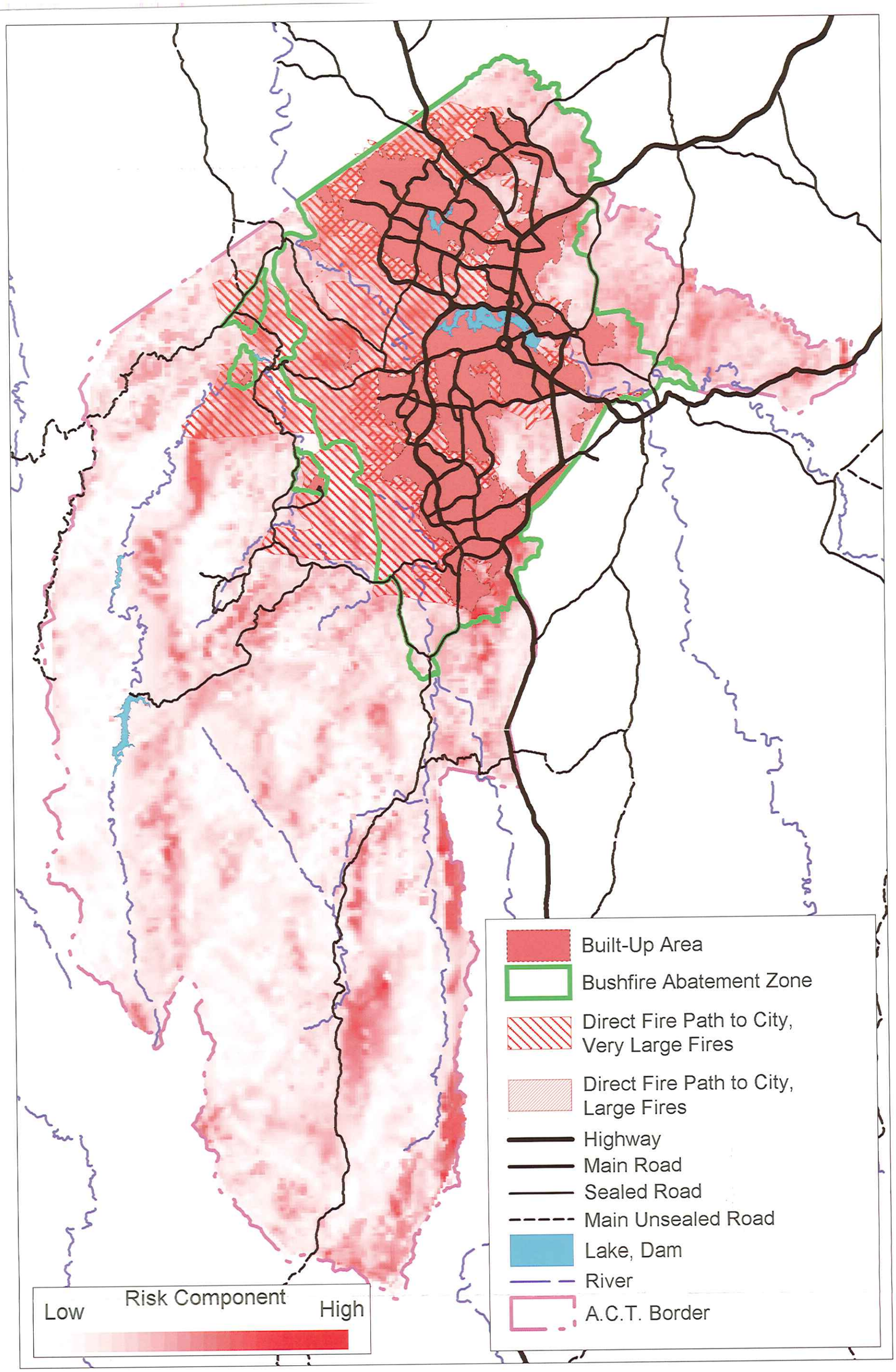
Warning Signs:

Abundant, fully cured grasslands occurring after a rainfall deficient period of 4-6 weeks; increasing temperatures, falling humidities and rising winds immediately preceding a cool change. Always remember wind changes associated with a cool change.

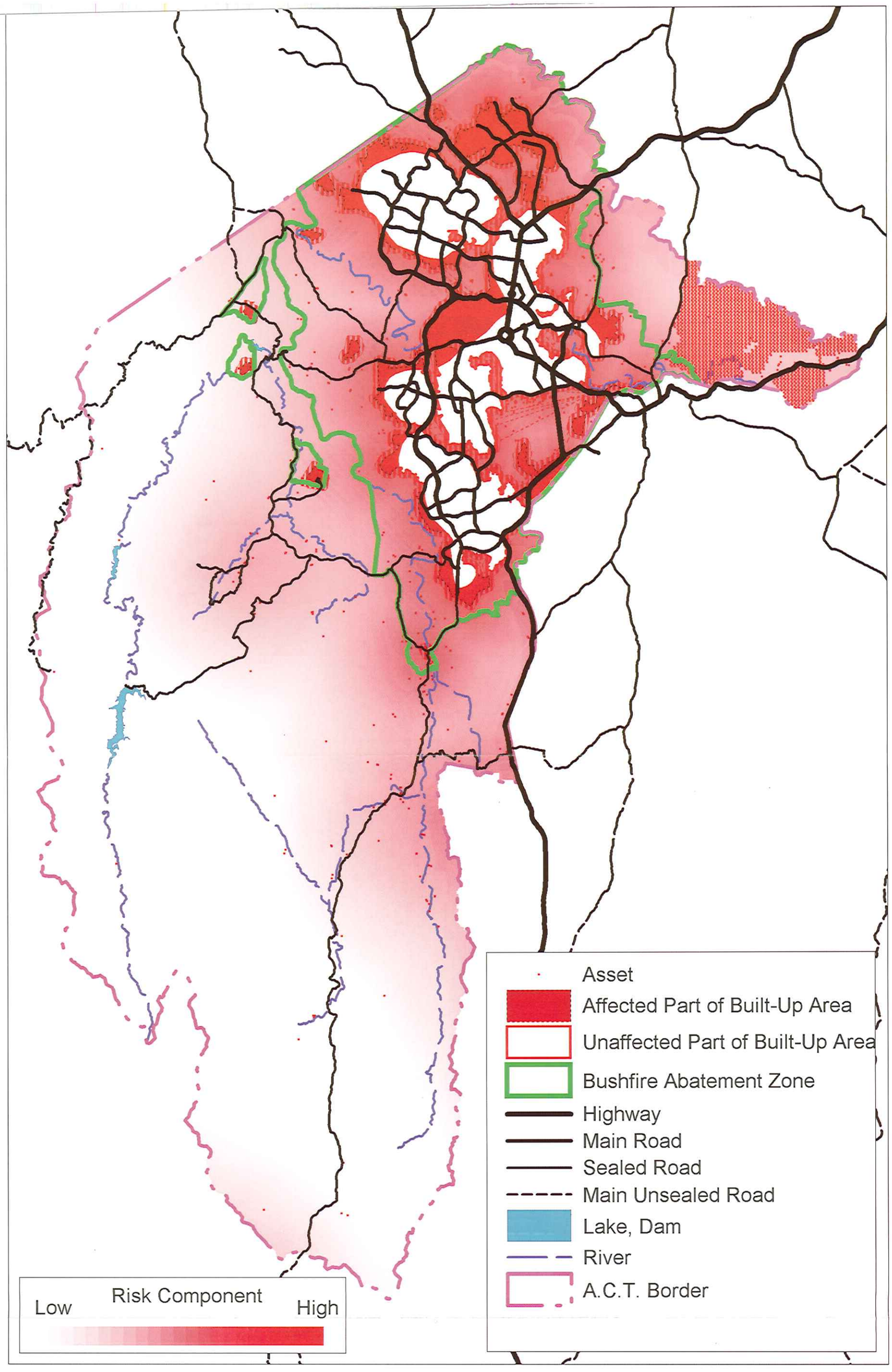
Acknowledgements:
A.G. McArthur, Grassland Fire Danger Meter Mk IV 1973.
Bush Fire Council of N.S.W. Officer Training Module CL/4 - Fire Behaviour Second Edition



Map 3. Risk Assessment – Where Fires Start.



Map 4. Risk Assessment – How Fires Spread.

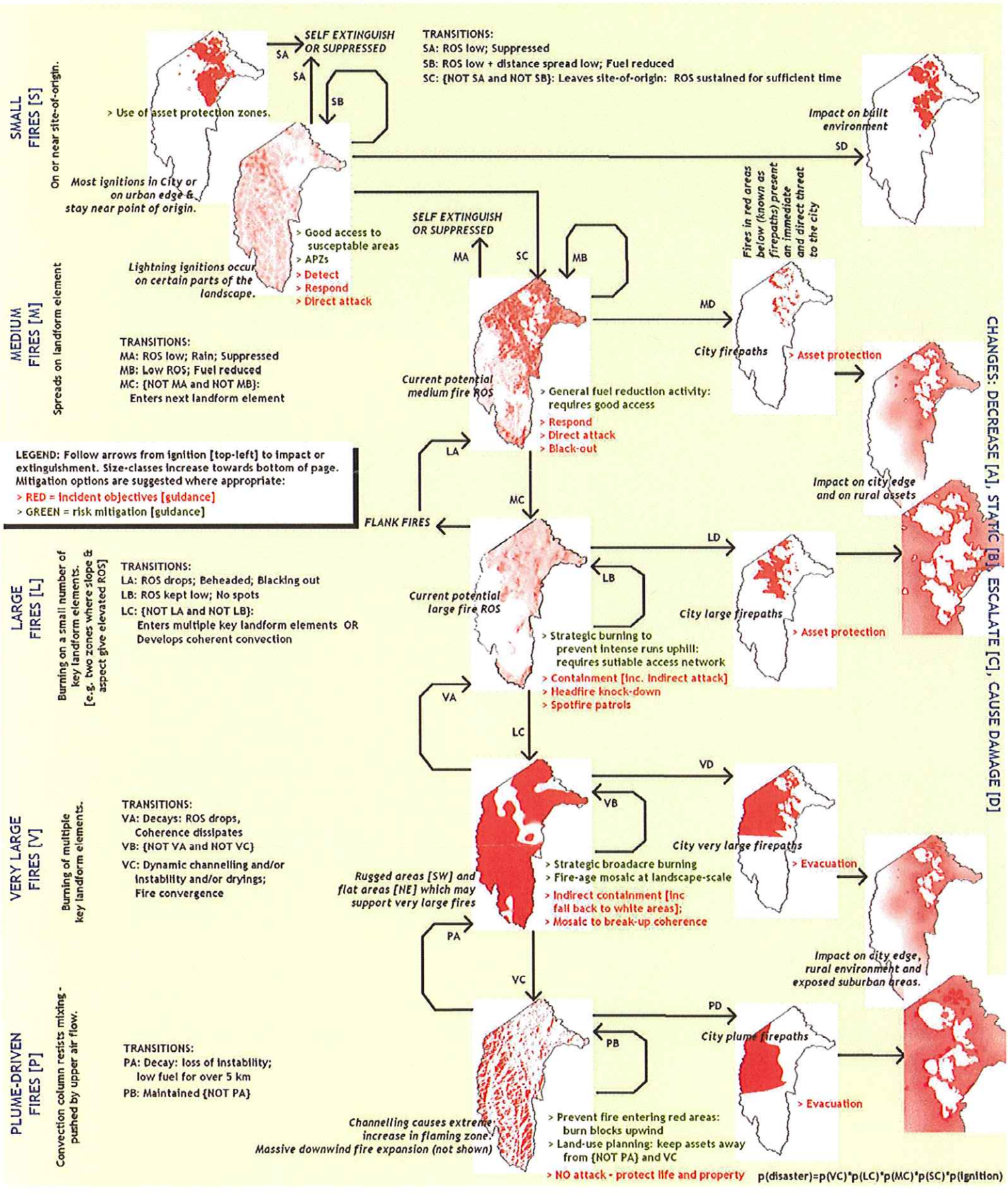


Map 5. Risk Assessment – Potential Consequences.

HIGHFIRE RISK: FIRE SIZE-CLASS TRANSITION MODEL

Rick McRae,[A,C] Rod Weber,[B,C] Jason Sharples[B,C]

[A] ACT Emergency Services Authority (ACT ESA), [B] University of New South Wales at Australian Defence Force Academy, [C] BushfireCRC HighFire Risk Project



COMMENTS FROM THE AUTHOR:
The following Javascript program is freely available for use by any non-commerial fire-related department, organisation or individual.

The following Javascript Exercise has been tested BUT no guarantees regarding the accuracy of the calculations are made. If there are any errors let me know.

All units are Metric!

McArthur Grassland Fire Danger Meter Mk4

ENTER THE COEFFICENTS IN APPROPRIATE BOXES			
Grass Curing (0 - 100%)	**Temperature (0 - 45 °)**	**Rel. Humidity (0 - 100%)**	**Wind Speed (0 - 70 km/hr)**
100	35	25	45

CALCULATE RESET FORM

GRASSLAND FDI	
McArthur Mk 4	**Rate of Fire Spread****
71 EXTREME	9.25 km/hr

** Rate of forward spread of fire on level to undulating ground on "average" pasture.

So what does it all mean? Click here!

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The following Javascript Exercise has been tested BUT no guarantees regarding the accuracy of the calculations are made. If there are any errors let me know.

All units are Metric!

McArthur Grassland Fire Danger Meter Mk5

ENTER THE COEFFICENTS IN APPROPRIATE BOXES				
Grass Curing (0 - 100%)	**Temperature (0 - 45 °)**	**Rel. Humidity (0 - 100%)**	**Wind Speed (0 - 70 km/hr)**	**Fuel Weight (tonnes/ha)**
100	35	25	45	3

CALCULATE RESET FORM

GRASSLAND FDI		
McArthur Mk 5	**Rate of Fire Spread****	**Fuel Moisture Content**
41 VERY HIGH	5.28 km/hr	4.65 %

** Rate of forward spread of fire on level to undulating ground on "average" pasture.

So what does it all mean? Click here!

Australian Standard: 3959

This is an abridged version of *Australian Standard 3959: Construction of Buildings in Bush F Prone Areas* and provides some detail for developments proposed in high risk zone

Please do not use the abridged version alone. The full version can be purchased from Standards Australia at www.standards.org.au.

Flooring

Level 1
Concrete slab on ground. Suspended floor· concrete floorframed floor, underside bearer to be greater than 600mm above finished ground level. Under space whe unenclosed all timber flooring, bearers and joists to be fire retardant treated timber.

Level 2
As per Level 1.

Level 3
As per Level 1 except where framed floors have a greater clearance than 600mm above finished ground level and are not fully enclosed – all flooring components are to be fire retardant treated timber.

External Walls

Level 1
Masonry, concrete, pise, rammed earth, stabilised earth or;Framed walls have n restriction to cladding materials but must incorporated breather-type sarking having appropriate flammability index or an insulating material confirming to the appropriate Australian Standard.

Where combustible sheeting is less than 400mm from ground, cladding shall be protected with a non-combustible material for no less than 400mm.

Level 2
As per Level 1 except PVC claddings not permitted and all external timber wall cladding shall be fire retardant treated timber.

Level 3
As per Level 2.

Windows

Level 1
All openable windows shall be fitted with screens.

Level 2
As per Level 1 and in addition – timber windows shall be fire retardant treated timber except where protected by non-combustible shutters. Leadlight windows shall be protected by a shutter constructed of non-combustible material or toughened glass.

Level 3
As per Level 2 except windows are to be protected by non-combustible shutters toughened glass.

External Doors

Level 1
Weather strips or draft excluders to be fitted. Tight fitting door screens to be fitted.

Level 2
As per Level 1 except aluminium mesh shall not be used. Leadlight glassing shal be protected by shutters constructed of non-combustible material or toughened glass.

Level 3
As per Level 2 except that timber doors shall be fire retardant treated or covered with non-combustible material on the exterior or doors shall be protected by shutters of non-combustible material or Doors shall be solid core having a thickness of not less than 35mm.

Roofs

Level 1
Timber shakes or shingles are not permitted.Tiled roofs shall be fully sarked. Sarking shall have a flammability index of no more than 5.

Sheeted roofs shall be fibre cement or metal and all gaps under corrugations or ribs where it meets the fascia/wall shall be sealed or protected by either (a) fully sarking roof or (b) corrosion resistant steel, bronze mess, profiled metal sheet, neoprene seal, compressed mineral wool or similar material.

The use of (b) cannot be used on roofs with valleys.Rib caps and ridge capping shall be sealed using either rib caps, ridge capping or as per prior clause.

Roof wall junctions shall be sealed by the use of fascias and eaves linings or with non-combustible materials.

Level 2
As per Level 1 except that all roofing shall be non-combustible and sarked.

Level 3

As per Level 2 except that no fibre-reinforced cement or aluminium sheet shall b used.

Rooflights

Level 1
All rooflights and associated shafts shall be sealed with a non-combustible sleeve or lining.

A rooflight can be constructed from thermoplastic sheet in a metal frame, but diffuser installed at ceiling level shall be wired or toughened glass in a metal frame.

Vented rooflights shall have corrosion resistant steel or bronze mesh.

Level 2
As per Level 1 except rooflight glazing shall be wired glass.

Level 3
As per Level 2.

Eaves

Level 1
Eaves shall be enclosed with all fascia or gaps between rafters being sealed.

Level 2
As per Level 1 except all timber eaves lining and joining strips shall be fire retardant-treated timber.

Level 3
As per Level 2 except that aluminium shall not be used.

Fascias

Level 1
No special requirement.

Level 2
All material must be either non-combustible or fire-retardant treated timber.

Level 3
As per Level 2 except that no fibre-reinforced cement or aluminium sheet shall b used.

Gutters and Downpipes

Level 1
All leaf guards must have a flammability index no greater than 5 (AS1503.2).

Level 2
As per Level 1.

Level 3
As per Level 1.

Verandas and Decks

Level 1
Slab-reinforced concrete suspended slab floor, supported by posts or columns. Slab on ground.

Sheeted or tongued and grooved solid flooring having:
- where clearance between under side of flooring to ground level is not greater than 400mm, all joints in the flooring shall be covered or sealed
- decking timbers shall have no less than 5m clearance
- posts and columns shall be non-combustible, fire retardant for a minimum of 400mm above finished ground level or mounted on galvanised metal shoes wit a clearance of not less than 75mm
- the external perimeter beneath the decking shall not be enclosed nor have access restricted
- decking timbers shall not connect with the remainder of the building unless measures are used to prevent the spread of fire into the building.

Level 2
As per Level 1 except spaced timber decking shall be fire retardant treated.

Level 3
As per Level 2 except all materials shall be non-combustible or where timber is used it all will be fire retardant treated including balustrades.

The construction standards to which a development must comply are determined by the category of bushfire attack for an area.

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Planning for Bushfire Protection

Planning for Bush Fire Protection 2006 is a Rural Fire Service publication outlining the bush fire protection measures to be included when planning or modifying a residential or special fire protection purpose building or development in a bush fire prone area.

Key features of the revised edition include the emphasis on a performance based approach to development through focusing on safer outcomes rather than simply meeting prescriptive requirements.

This approach to planning allows for considerable flexibility and innovation that links the bush fire hazard for a site with the implementation of appropriate bush fire protection measures. These bush fire protection measures must be addressed in any development applications submitted to Councils for proposed developments in bush fire prone areas.

The six Bush Fire Protection Measures (BPMs) include:

- Asset Protection Zones (fuel reduced areas)
- Access arrangements
- Building construction and design
- Water supply and utilities
- Landscaping
- Emergency Management Arrangements

These six BPMs should be considered in combination to achieve an acceptable outcome in terms of bush fire protection. The acceptable solutions in *Planning for Bush Fire Protection 2006* acknowledge that the BPMs work in combination to achieve good bush fire protection, while not needlessly reducing lot yields/site coverage or threatening environmental sustainability.

By incorporating bush fire protection measures into a development the 6 objectives of *Planning for Bush Fire Protection 2006* are addressed:

1. afford occupants of any building adequate protection from exposure to a bush fire;
2. provide for a defendable space to be located around buildings;
3. provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent direct flame contact and material ignition;
4. ensure that safe operational access and egress for emergency service personnel and residents is available;
5. provide for ongoing management and maintenance of bush fire protection measures, including fuel loads in the asset protection zone (APZ); and

6. ensure that utility services are adequate to meet the needs of fire fighters (and others assisting in bush fire fighting).

For more information about the six bush fire protection measures to be considered when planning a development in a bush fire prone area, click on a link below:

- Asset Protection Zones
- Access
- Building Construction and Design
- Water supply and utilities
- Landscaping
- Emergency Management Arrangements

The RFS has several publications available on building in bush fire prone areas:

- *Planning for Bush Fire Protection 2006*
- *Applicants Kit: Single Dwelling*
- *Applicants Kit: Subdivision*
- *Frequently asked questions*
- Available in PDF format from our Publications Area

More about Building in a Bush Fire Prone Area:

- Introduction
- Legal Obligations
- How to use Planning for Bush Fire Protection

Printer friendly format

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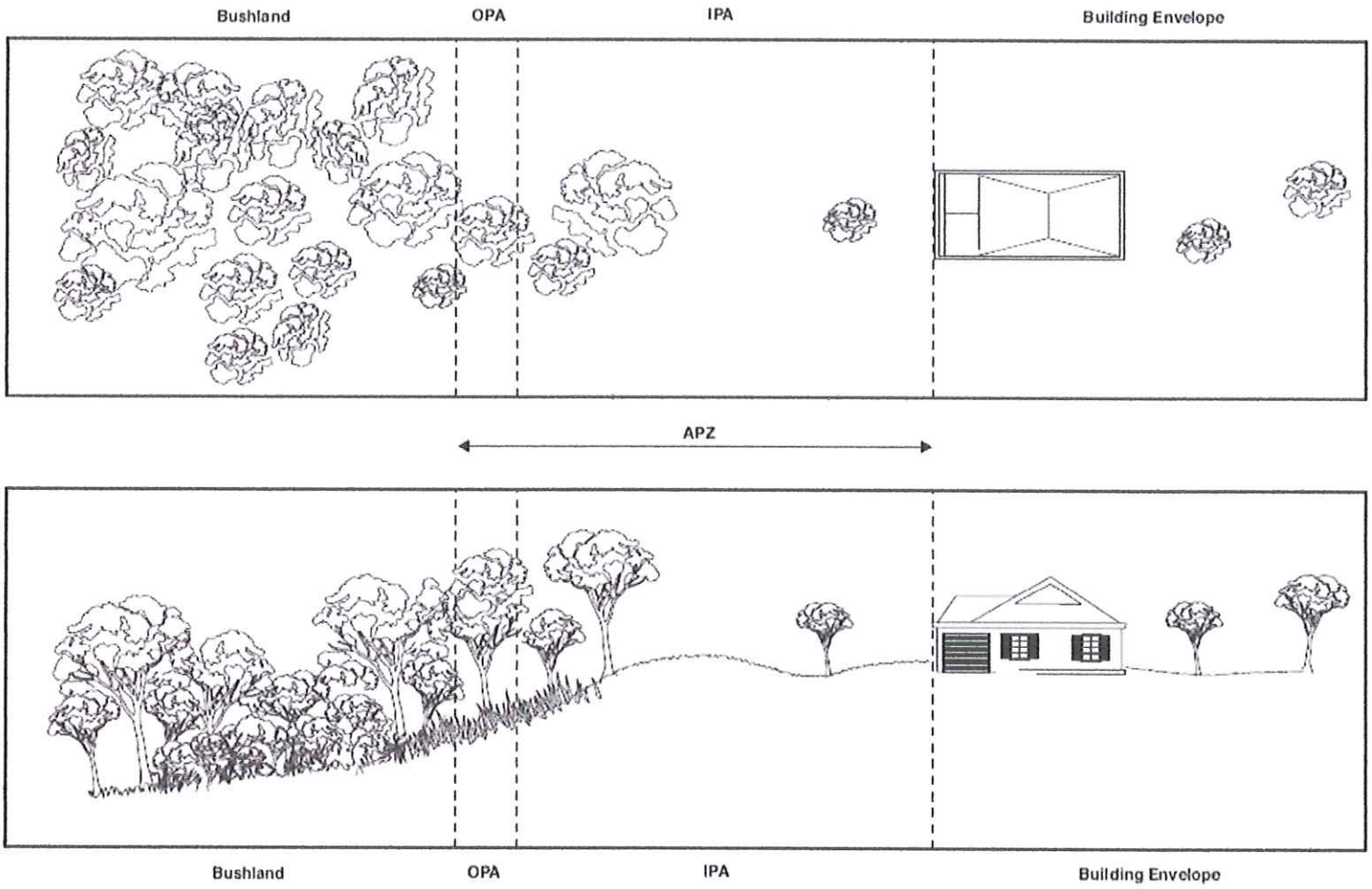
Asset Protection Zones



What is an Asset Protection Zone?

An Asset Protection Zone (APZ) is often referred to as a fire protection zone and aims to protect human life, property and highly valued assets and values. It is a buffer zone between a bush fire hazard and buildings, which is managed progressively to minimise fuel loads and reduce potential radiant heat levels, flame, ember and smoke attack on life and property.

The width of the APZ will vary with slope, vegetation and construction level. It consists of an area maintained to minimal fuel loads and, for subdivision, comprising a combination of perimeter road, fire trail, rear yard or a reserve, so that a fire path is not created between the hazard and the building.

An APZ consists of two areas:

- Inner Protection Area, closest to buildings, incorporating the defendable space and for managing heat intensities at the building surface; and
- Outer Protection Area, for reducing the potential length of flames by slowing the rate of spread, filtering embers and suppressing the crown fire.

Creating an APZ for new development

An APZ should be located wholly within the subject site. Developments should not offset APZ to neighbouring land unless exceptional circumstances apply. You cannot clear vegetation on a neighbour's property or on lands administered/owned by National Parks, the Crown or under the management of your local council without written consent from the owner (an easement or plan of management).

- For more about APZ and easements, see Development Control Note 02, available in our Publications Area

If you are constructing an APZ for a new dwelling you will need to comply with the requirements in *Planning for Bush fire Protection 2006* (available as a link from the bottom of this page).

Any approvals required will have to be obtained as part of the Development Application process. *Planning for Bush Fire Protection 2006* outlines the distance requirements for APZ including the requirements for an Inner Protection Area and Outer Protection Area.

To download performance criteria and acceptable solutions for Asset Protection Zones click the link below:

Chapter 4 - Performance Based Controls (24,799kb)

For more information about the six bush fire protection measures to be considered when planning a development in a bush fire prone area, click on a link below:

- Access
- Building Construction and Design
- Water supply and utilities
- Landscaping
- Emergency Management Arrangments

Creating an APZ for existing development

If you wish to create or maintain an APZ for an existing structure you may be required to obtain a Bush Fire Hazard Reduction Certificate or other environmental approval. The RFS offers a free environmental assessment and certificate issuing service for private property in bush fire prone areas. Contact your local RFS Fire Control Centre to determine if you can use this approval process.

- Find your nearest Fire Control Centre

If you intend to use fire to remove the bush fire hazard from your property you may also need to obtain a fire safety Permit through the RFS or NSW Fire Brigades. The RFS document *Before You Light That Fire* (available as a link from the bottom of this page) explains when a permit is required.

If you believe that the land adjacent to your property is a bush fire hazard and requires clearing to create an APZ, you can lodge a complaint with the RFS and action will be taken if required.

Publications

The RFS has several publications available on building in bush fire prone areas:

- *Planning for Bush Fire Protection 2006*
- *Applicants Kit: Single Dwelling*
- *Applicants Kit: Subdivision*
- *Frequently asked questions*
- Available in PDF format from our Publications Area

More about Building in a Bush Fire Prone Area:

- Introduction
- Planning for Bush Fire Protection
- Legal Obligations
- How to use Planning for Bush Fire Protection

The RFS has several publications available on living in bush fire prone area and establishing an Asset Protection Zone:

- *Planning for Bush fire Protection*
- *Building in a Bush fire Prone Area*
- *Before you Light that Fire*
- *Standards for Asset Protection Zones*
- *Standards for Low Intensity Burning*
- *Standards for Pile Burning*
- *Standards for Windrow Burning*
- *Application and Guidelines for Bush Fire Hazard Reduction Certificates*
- These are available in PDF format from our Publications Area and from RFS Fire Control Centres

More about Hazard Reduction:

- Scheduled Hazard Reductions
- Recognise Bush fire Hazards
- Who is Responsible for Hazard Reduction?
- How to do Hazard Reduction
- Permits and Approvals
- Asset Protection Zones
- Be Careful with Burn Offs
- Water Supplies and Equipment
- You Can Report Bush fire Hazards
- Bush fire Hazard Complaint Form
- Environmental Assessment of Hazard Reduction
- Hazard Reduction Statistics 2004-05

Other useful information:

- Are you at Risk of Bush fire?
- Safe Burning Practices
- Bush fire Management in NSW

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Access

For new subdivisions and large scale special fire protection purpose developments, the design of public and property access roads should enable safe access, egress and defendable space for emergency services. Fire trails enable access for management of APZs. These principles also apply for other developments but greater emphasis on landscaping, construction and other bush fire protection measures may be necessary.

Specific design criteria must be applied in accordance with *Planning for Bush fire Protection 2006* to the following types of road:

Public Roads: These include the perimeter road and the internal road system of any urban subdivision, as well as public roads in rural-residential subdivisions.

The public road system in a bush fire prone area should provide alternative access or egress for firefighters and residents during a bush fire emergency if part of the road system is cut by fire.

Property Access Roads: Property access is access from a public road system onto private land and access to a habitable building for fire fighters. A distinction is drawn between rural private access roads and those in urban areas.

Where property access is required across other land, the owner's consent to legally binding arrangements covering access and ongoing maintenance are required prior to lodging a development application.

Short property access roads are preferable to long ones for the safety of evacuating residents and emergency service personnel, and therefore it is preferable to site dwellings as close as possible to public through roads.

Fire Trails: Fire trails are used as access for firefighters, as fire control lines and for APZ maintenance.

In rural-residential subdivisions, they may surround isolated dwellings or groups of dwellings and can form part of the IPA around individual or groups of dwellings.

In suburban subdivisions they may function as a strategic control line around the hazard side of the IPA, if they are connected to the public road system at frequent intervals. A fire trail is not a substitute for a perimeter road and any proposals will need to demonstrate clear benefits over the use of a perimeter road.

To download performance criteria and acceptable solutions for access click the link below:

Chapter 4 - Performance Based Controls (24,799kb)

For more information about the six bush fire protection measures to be considered when planning a development in a bush fire prone area, click on a link below:

- Asset Protection Zones
- Building Construction and Design
- Water supply and utilities
- Landscaping
- Emergency Management Arrangements

The RFS has several publications available on building in bush fire prone areas:

- *Planning for Bush Fire Protection 2006*
- *Applicants Kit: Single Dwelling*
- *Applicants Kit: Subdivision*
- *Frequently asked questions*
- Available in PDF format from our Publications Area

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Building Construction and Design

For development on bush fire prone land preliminary consideration of construction levels is necessary at the development application stage. There are five categories of bush fire attack that are used to determine the appropriate level of construction to be applied to a development:

- low
- medium
- high
- extreme
- flame zone.

The categories are determined by:

- the type of vegetation in your area
- how close your building is to the vegetation
- what the ground slope is, as fire runs more readily uphill. The risk is greater for a slope over 15 degrees.

The building requirements for house design and construction vary according to the category of bush fire attack that a development falls into. The building requirements for each level of construction are set out in *Australian Standard: 3959* (AS: 3959) and there are 3 levels of construction:

- Level 1 construction
- Level 2 construction
- Level 3 construction

View an abridged version of *Australian Standard: 3959 Construction of Buildings in Bush fire Prone Areas* (AS:3959)

You can purchase Australian Standard 3959 Construction of Buildings in Bush fire Prone Areas (AS: 3959) from Standards Australia. Visit their website:

- www.standards.org.au

Detailed below are the various categories and bush fire attack and the associated construction requirements:

Low

Minimal attack from radiant heat and flame due to the distance of the site from the vegetation, although some attack by burning debris is possible. There is insufficient threat to warrant specific construction requirements, but residents should still do basic property preparation.

Medium

Attack by burning debris is significant with radiant heat (not greater than 12.5kW/m2). Radiant heat is unlikely to threaten building elements (i.e. unscreened glass). Specific construction requirements for ember protection and accumulation of debris are warranted (Level 1 construction standards).

High

Attack by burning debris is significant with radiant heat levels (not greater than 19kW/m2) threatening some building elements. Specific construction requirements for embers and radiant heat are warranted (Level 2 construction standards).

Extreme

Attack by burning debris is significant and radiant heat levels (not greater than 29kW/m2) threaten building integrity. Specific construction requirements for ember and higher radiant heat are warranted. Some flame contact is possible (Level 3 construction standards).

Flame Zone

Radiant heat levels will exceed 29kW/m2, and radiant heat levels and flame contact are likely to significantly threaten building integrity and result in significant risk to residents who are unlikely to be adequately protected.
The flame zone is outside the scope of AS:3959 and the RFS will recommend protection measures in addition to minimum

Level 3 construction. Other measures such as sprinkler systems, radiant heat barriers and fire rated glass may also be required.

In preparing a development application under section 79BA, an applicant may consider the provision of higher-level construction standards as a level of equivalence for the inability to provide the required APZ. Consideration may also be given to additional measures such as drenching systems, radiant heat shields and shutters to satisfy the performance criteria.

To download performance criteria and acceptable solutions for building construction and design click the link below:

Chapter 4 - Performance Based Controls (24,799kb)

For more information about the six bush fire protection measures to be considered when planning a development in a bush fire prone area, click on a link below:

- Asset Protection Zones
- Access
- Landscaping
- Water supply and utilities
- Emergency Management Arrangements

The RFS has several publications available on building in bush fire prone areas:

- *Planning for Bush Fire Protection 2006*
- *Applicants Kit: Single Dwelling*
- *Applicants Kit: Subdivision*
- *Frequently asked questions*
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Water Supply and Utilities

During major bush fire events, the preparedness of a development and its occupants may be seriously jeopardised with the loss of basic services (particularly water and electricity).

As part of the development consent process for new development it may be necessary to specify the provision of certain services.

Adequate water supply is critical for any fire fighting operation, particularly where property protection is envisaged. The amount of water to be supplied may vary with differing geographical and topographical conditions.

In addition, significantly increased densities may draw upon existing water supplies which, if not supplemented, may prove inadequate in the face of a major bush fire event. This requires careful consideration at the subdivision stage to ensure adequate water will be available.

In addition to this, gas and electricity should be located so as not to contribute to the risk of fire or impede the fire fighting effort.

To download performance criteria and acceptable solutions for water supply and utilities click the link below:

Chapter 4 - Performance Based Controls (24,799kb)

For more information about the six bush fire protection measures to be considered when planning a development in a bush fire prone area, click on a link below:

- Asset Protection Zones
- Access
- Building Construction and Design
- Landscaping
- Emergency Management Arrangements

The RFS has several publications available on building in bush fire prone areas:

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Landscaping

When considering a development application, the type, location and ongoing maintenance of landscaping, within the Asset Protection Zone is a necessary bush fire protection measure.

The planning system can be used to better effect in protecting human life, property and environmental values from the impacts of bush fire events. In some cases this will involve land use planning and development controls, construction standards, APZs and subdivision layout, siting, design and provision of services..

However, the best planning can be undone by poor maintenance and lack of forethought when landscaping a development. Therefore house survival ultimately depends on the householder.

The principles of landscaping for bush fire protection aim to:

- Prevent flame impingement on the dwelling;
- Provide a defendable space for property protection;
- Reduce fire spread;
- Deflect and filter embers;
- Provide shelter from radiant heat; and
- Reduce wind speed.

To download performance criteria and acceptable solutions for landscaping click the link below:

Chapter 4 - Performance Based Controls (24,799kb)

For more information about the six bush fire protection measures to be considered when planning a development in a bush fire prone area, click on a link below:

- Asset Protection Zones
- Access
- Building Construction and Design
- Water supply and utilities
- Emergency Management Arrangements

The RFS has several publications available on building in bush fire prone areas:

- *Planning for Bush Fire Protection 2006*
- *Applicants Kit: Single Dwelling*
- *Applicants Kit: Subdivision*
- *Frequently asked questions*
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- How to use Planning for Bush Fire Protection

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Emergency Management Arrangements

A decision to stay and defend a well-prepared property or to leave early should be made well in advance of the arrival of a bush fire, and people who intend to relocate themselves should do so as early as possible.

It is also recognised that people who cannot cope with bush fire should relocate well before a fire impacts on their location, and that there should be an identified 'trigger' used to initiate an emergency or relocation plan. Relocation in advance of a bush fire is not always possible however.

Appropriately prepared and constructed buildings offer protection during bush fires reducing the likelihood of bush fire related injury and fatality. Evacuation at the last minute ahead of a bush fire is very dangerous, and potentially exposes people to smoke, radiant heat and embers. It is for this reason that special fire protection purpose developments have increased setback requirements to meet evacuation/relocation and emergency planning objectives and also have a requirement for site specific emergency plans.

To download performance criteria and acceptable solutions for emergency management arrangements click the link below:

Chapter 4 - Performance Based Controls (24,799kb)

For more information about the six bush fire protection measures to be considered when planning a development in a bush fire prone area, click on a link below:

- Asset Protection Zones
- Access
- Building Construction and Design
- Water supply and utilities
- Landscaping

The RFS has several publications available on building in bush fire prone areas:

- *Planning for Bush Fire Protection 2006*
- *Applicants Kit: Single Dwelling*
- *Applicants Kit: Subdivision*
- *Frequently asked questions*
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- How to use Planning for Bush Fire Protection

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Conclusion

CPR submits that the evidence contained within this submission shows, to a high level of proof, that the application filed by ACTEWAGL for a gas fired power station and data centre in Block 1671 Tuggeranong is fundamentally flawed, irreparably damaging to the environment, and without merit or benefits to the community. There is not one single piece of quantifiable evidence to suggest that this proposal offers the people of Canberra anything unique, apart from the increased pollution to the environment and not one guaranteed benefit which will outweigh the guaranteed negative impact on the environment and on the health and well being of residents of southern Canberra. This submission shows the reports filed to support ACTEWAGL's application are flawed, biased and incomplete. This proposal is now almost entirely a private consortium development, with the remaining aspects raising serious questions regarding ACTEW's continued involvement in this application being contradictory to ACTEW's core business and conflicts with the values and principles of the Territory Owned Corporations Act.

This submission has shown, to a high level of proof, that ACTEWAGL's proposal to build a gas fired power station and data centre is inappropriate to the proposed site, incompatible with the health and well being of residents of Southern Canberra, environmentally damaging to an unacceptable level and as a consequence should be rejected.

CPR further submits that the community has now lost faith in the integrity of this process within the revelation of government interference with site selection, proponent access to internal government documents and the undisclosed intention to use this development to advance undisclosed plans to industrialise the entire broadacre site. CPR further submits that the proponents lack of integrity, accountability and respect for the community shown in their lack of honest and meaningful consultation shows irrefutable proof the proponents cannot be trusted not to increase this power station to suit their own profit making ends. Their behaviour in respect of their first application, when they were aware by 4 May 2008 that their original application was not viable yet they continued to "consult" with the community, continued to allow the community to spend untold hours and finances to compile an earlier submission, continued to allow tax payers money to be wasted allowing Department of Health and Disability staff to compile plans to move a health facility, continued to waste tax payers money allowing ACTPLA staff to work through administering the original application and then claim they down-scaled because of community complaints - shows in what contempt these proponents hold the community of Canberra. This contempt does not bode well for the future of the community should these proponents be allowed to continue with their "down-scaled " but infinitely scaleable power station and data centre.

This submission represents the views of nearly 4,000 Canberra residents who signed the petition not to have a power station built so close to residential homes. This submission represents the views and wishes of the people of Canberra who have entrusted in the government and ACTPLA to administer the land in line with the best interests, views and wishes of the whole of Canberra - not just of a wealthy, well connected, consortium. This consortium, which is based over-seas, the profits of which will flow over-seas, run by people who do not live in Canberra and have no connection to Canberra other than through their business arrangements with ACTEWAGL should not be given such power and access to decide what happens to the future of land development in Canberra. It is pertinent to note this consortium, via ACTEWAGL's close relationship with the Chief Minister, is proposing to build on this piece of land, not because it was the most appropriate, or perfect for this development but because it was cheaper than a more appropriate piece of land.

Some of the negative impacts on the residents of Canberra in allowing this development to proceed will be to destroy the local environment, pollute southern Canberra, destroy valuable heritage sites, lower house prices, destroy any idea of equity in developers investing in the Territory, make Canberra the laughing stock of other National Capitals, decimating any idea that Canberra and indeed Australia is remotely interested in investing in developments which favour sustainable, renewable, energy sources, wipe out valuable and precious horse agistments, place in danger of increased fire,bush fire, heavy pollution, increased noise pollution and terrorist

attacks to the residents of Gowrie, Fadden, Macarthur, Gilmore, Farrer, Wanniassa, Isaacs and Chisholm to name a few.

CPR submits the application to build a power station and data centre on Block 1671 Tuggeranong should be rejected

If ACTPLA feels it does not have enough information within this submission to make that decision and this warrants further investigation, CPR would find this puzzling as we have used the services of highly skilled, highly intelligent, independent experts from across Canberra to supply details and analysis on the proponents supporting reports and doubt ACTPLA will be able to find alternative conclusions to the ones presented here.

CPR has taken the following from the ACTPLA web site:
The ACT Planning and Land Authority is the ACT Government's statutory agency responsible for planning for the future growth of Canberra in partnership with the community.

Responsibilities

The Authority aims to promote sustainable, attractive, safe and well-designed urban, residential and rural environments in the ACT. It has responsibility for strategic and land planning, lease administration, land information, development and building regulation.

Authority functions

Under the *Planning and Development Act 2007* the Authority is required to:

- administer the Territory Plan;
- continually assess the Territory Plan and propose amendments as necessary;
- plan and regulate the development of land;
- advise on planning and land policy, including the broad spatial planning framework for the ACT;
- maintain the digital cadastral database;
- make available land information;
- grant, administer, vary and end leases on behalf of the Executive;
- grant licenses over unleased Territory land;
- decide applications for approval to undertake development;
- regulate the building industry;
- make orders;
- provide planning services, including services to entities outside the ACT;
- review its own decisions;
- ensure community consultation and participation in planning decisions; and
- promote public education and understanding of the planning process, including by providing easily accessible public information and documentation on planning and land use.

CPR particularly notes that ACTPLA's key functions and responsibilities is community consultation, review of its own decisions and to ensure that the Territory Plan is administered.

CPR would like to remind ACTPLA that now the main peaking power station has been removed from this application, what remains is ostensibly a private consortium application to build a power station and data centre on a piece of land currently zoned for Broadacre, currently with no infra-structure or utilities attached to it, 660 metres from established homes and closer still to an established, re-furbished health facility. This submission supplies enough indpendent analysis and reasoned valid objection to enable ACTPLA to reject the proponents application now. CPR would question whether, without ACTEWAGL named as the proponent, without the Chief Minister being so closely involved in this matter - would in other circumstances ACTPLA allow such an application from a private consortium to be passed in the face of such detailed and accurate objection and backed by 4,000 signatures objecting to this proposal? This is not political naivety to ask this question - it is a fundamental question the people of Canberra are now asking.

We are keenly aware of the influences of certain members of government and the

political connections these proponents come with and accordingly CPR submits in the alternative to rejection that a full independent environmental impact statement is conducted. The conclusions of this statement should form part of a full ministerial inquiry which will include full independent reports on health, environment, heritage, alternatives, the future of this piece of Broadacre, employment within Canberra and a full cost/ benefit analysis of this proposal to ensure exactly what benefits flow to the community and at what cost will these be borne by the community.

CPR looks forward to being closely and meaningfully involved in any consultation, discussion, committee or investigation conducted into this matter, but hopes that the process will redeem itself, review this submission and conclude the application to build a gas fired power station and data centre within 660 metres of Canberra residents is rejected.

Annexes

Annex A

The sign – we are sure you will accept was a small yellow sign, facing onto a rural road, without a pedestrian pathway, which can only be seen by the passenger of a car facing to the left, as the car sped past.

Annex B

The newspaper advertisement- CPR has had the benefit of access to the documents acquired by the Liberal Members of the Legislative Assembly under the *Freedom of Information Act*.(FOI) we note from these, that the newspaper advertisement went into the Canberra Times via an email from ACTPLA dated 14 April 2008

(advertisement for The Canberra Times)

Fax to:	**The Canberra Times** (Classifieds) **Fax 6280 2119**
Account Name:	ACT Planning and Land Authority
Account Number:	1277730
Department's contact:	Applications Secretariat 6207 1687
Publication Date:	14 April 2008
Size of Advertisement:	Single Column
Classification:	Development Applications
Order Number:	TUGGB1671

****

ACT Planning & Land Authority

The ACT Planning and Land Authority has received the following application/s available for public inspection between 8:30am and 4:30pm weekdays at:

Applications Secretariat
ACT Planning and Land Authority
Dame Pattie Menzies House
Ground Floor (right hand building)
16 Challis Street
Dickson ACT

Development Applications are also available on-line at:
http://apps.actpla.act.gov.au/plandev/e-registers/pubnote/pubnoteMaster_new.asp

If you feel the application may affect you in any way and wish to object, you can lodge a written objection clearly stating the grounds for objection. However, you may also provide comments in support of the application. Objections or comments must arrive by close of business **5 May 2008** and may be delivered to the above address, Emailed to app.sec@act.gov.au, or posted to:

Applications Secretariat
ACT Planning and Land Authority
PO Box 365
Mitchell ACT 2911

If you need more information, please telephone the Secretariat on 6207 1687.

Development Application 200704152CT: NONR COMMERCIAL- Major Utility Installation in the form of a Natural Gas Power Station and its associated electricity switchyard/substation; a Communications Facility in the form of Computer Data Centres; overhead high voltage power lines from the existing power lines to the power

	station transformer yard; and the construction of a high pressure natural gas pipeline to provide fuel for the power station.
Location:	Block: 1671 Section: Suburb: TUGGERANONG MUGGA LANE

Annex C

Your alert of this matter to Tuggeranong Community Council (TCC) via a letter from Nadia Chami dated 11 April 2008, (see annex C) prompted the TCC to request ACTEWAGL attend an information night on 28 April 2008. Whilst we are grateful that ACTEWAGL agreed on this occasion to meet the community, this was arranged at the request of the TCC not ACTEWAGL.

ACT Planning & Land Authority

Tuggeranong Community Council
PO Box 436
Erindale Centre ACT 2903
Email: tccorg@optusnet.com.au

Dear Tuggeranong Community Council

As part of the community engagement arrangements that the ACT Planning and Land Authority has entered into with ACT Community Councils, the Authority will advise Councils of development applications that are to be publicly notified.

The ACT Planning & Land Authority advises that is has received the following Development Application in relation to Block 1671 Section 0 Mugga Lane Tuggeranong and that this application will be notified on the Authority's website under the headings **–Have your say – Public Notification – Development Applications open for public comment.'** (www.actpla.act.gov.au) and in the Canberra Times.

Development Application: 200704152

NONR COMMERCIAL- Major Utility Installation in the form of a Natural Gas Power Station and its associated electricity switchyard/substation; a Communications Facility in the form of Computer Data Centres; overhead high voltage power lines from the existing power lines to the power station transformer yard; and the construction of a high pressure natural gas pipeline to provide fuel for the power station.

Location: Block: 1671 Section: 0 District:Tuggeranong

Community Councils may wish to comment on the Development Application. A copy of the application can be inspected at the ACT Planning and Land Authority Customer Service Centre, Dame Pattie Menzies House, Ground Floor South, 16 Challis Street, Dickson. The Customer Service Centre is open on weekdays from 8:30am to 4:30pm. (Please bring this letter with you for reference).

Submissions must be forwarded to the Applications Secretariat at 16 Challis Street Dickson, by email to *app.sec@act.gov.au*, or mailed to PO Box 365 Mitchell ACT 2911. An acknowledgment of the Councils submission received will be forwarded to the Community Council and advice given when a decision is made on the application. Copies of all submissions received will be forwarded to the applicant and also made available for public inspection.

The public notification period required by legislation will end at close of business 05 May 2008.

Please note that the purpose of this letter is to advise Community Councils of the development applications that are being notified.

Significant Development Applications which the Authority will offer briefings to Councils on will be denoted with '**to advise community council of notification**' as part of the description.

Under the agreed arrangements between the ACT Planning and Land Authority and Community Councils, if requested, the Authority will offer Councils a briefing on the significant development applications that have been referred to the Planning and Land Council. This may involve a briefing by the proponent, with the Authority attending the meeting to discuss policy related issues.

If you need more information, please contact the Community Engagement Coordinator on 6207 1677 or email actplacommunityeng@act.gov.au

Yours sincerely

Nadia Chami
ACT Planning and Land Authority
11 April 2008

Annex D

The letter - We note amongst the FOI documents a draft form letter informing the "immediately adjoining neighbours" of this proposal. No members of CPR, their neighbours or the people approached in the adjoining addresses received any such letter.

The addresses most directly adjoining this application are :- Jackie Howe Crescent, Bracker Place, Goldsbrough Close, Beggs Place, Ebsworth Close, Kater Close and Starritt Place - no one approached from these addresses ever received any notification from ACTPLA or ACTEWAGL of this proposal.

ACT Planning & Land Authority

11 April 2008

Dear Property Owner

The ACT Planning & Land Authority has received the following Development Application in relation to MUGGA LANE. As this property is near yours, you may wish to comment on the application.

Development Application 200704152:	
	NONR COMMERCIAL- Major Utility Installation in the form of a Natural Gas Power Station and its associated electricity switchyard/substation; a Communications Facility in the form of Computer Data Centres; overhead high voltage power lines from the existing power lines to the power station transformer yard; and the construction of a high pressure natural gas pipeline to provide fuel for the power station.
Location:	**Block: 1671 Section: Suburb:** TUGGERANONG
	MUGGA LANE

You can inspect a copy of the application at the **Applications Secretariat, Dame Pattie Menzies House, Ground Floor South (right hand building), 16 Challis Street Dickson** *(opposite Motor Vehicle Registry)*. The Secretariat's office is open on weekdays from **8:30am** to **4:30pm. (Please bring this letter with you for reference).**

If you feel the application may affect you in any way and wish to object, you can lodge a written objection clearly stating the grounds for objection. However, you may also provide comments in support of the application. You may deliver your objections or comments to the **Applications Secretariat** at 16 Challis Street Dickson, by Internet Email to *app.sec@act.gov.au*, or post it to PO Box 365 Mitchell ACT 2911. Objections or comments must arrive by close of business **5 May 2008.**

If you make objections or comments, an acknowledgment will be posted to you and you will be advised when a decision is made on the application. Copies of all

ACT Planning & Land Authority
Applications Secretariat
16 Challis Street, Dickson
PO Box 365, Mitchell, ACT 2911 • Telephone: (02) 6207 1687 • Email: app.sec@act.gov.au
Authority Website: www.actpla.act.gov.au

correspondence received will be forwarded to the applicant and also made available for public inspection. You may request that your identity be kept confidential, however, in doing so you are required under the *Land (Planning and Environment) Act 1991* to clearly state the reasons **why it would not be in the public interest for your identity to be published.** If your application for exemption is approved, the Authority will seek to protect the information from disclosure, however, the Authority cannot guarantee that the information will not have to be disclosed pursuant to a legal obligation.

A complete list of development applications currently open for public comment is available on the Authority's web site at *http://apps.actpla.act.gov.au/plandev/e-registers/pubnote/pubnoteMaster_new.asp*

If you need more information, please phone the Applications Secretariat on (02) 6207 1687.

Yours faithfully

Applications Secretariat

ACT Planning & Land Authority
Applications Secretariat
16 Challis Street, Dickson
PO Box 365, Mitchell, ACT 2911 • Telephone: (02) 6207 1687 • Email: app.sec@act.gov.au
Authority Website: www.actpla.act.gov.au

Annex E

Michael Costello, John Mackay and Chief Minister Jon Stanhope have all, at various times, stated that this second application, filed on June 6th, is proof of the proponents listening to the community and hearing their concerns – as a result they have changed their proposals to this new application.

Please see annex E where we draw your attention to the date Mr Brooke O'Mahoney signed the application for an alteration to this application being 3rd May 2008.

Part 7: Applicant & Lessee Declaration

I/we the undersigned, hereby apply for approval to carry out the development described on the land specified in this application;

I/we hereby authorise the ACT Planning and Land Authority to erect sign/s on the subject property(s) as required;

I/we hereby authorise ACT Government officers to access the subject property(s) for the purpose of evaluating the proposal (including the inspection of trees);

I/we understand that this application may be electronically scanned and made available for public inspection via the internet;

I/we declare that all the information given on this form and its attachments is true and complete;

I/we understand that the information submitted with this application form will undergo a documentation check prior to the formal lodgement of the application (and payment of fees), and further information may be required prior to the acceptance of the development application by the Authority;

I understand that all costs including the relocation of any engineering services (light poles, stormwater, sumps etc) will be at my expense and that I will indemnify the ACT Government, its servants and agents against any claims arising during construction;

I understand that construction of any driveway associated with this application may not commence until the contractor has received endorsement by Asset Acceptance. I understand that a Certificate of Design Acceptance must be obtained from the Asset Acceptance Section of the Department of Territory and Municipal Services prior to the start of construction works and a Road Opening Permit and Temporary Management Plan obtained from Roads ACT.

I/we the undersigned (lessee) appoint the applicant whose signature appears below to act on my/our behalf in relation to this Development Application. This authorises the applicant to pay all application fees, bonds and securities, liaise with the ACT Planning and Land Authority when required, alter, amend or provide further information as necessary and receive any communications relating to this Development Application.

In addition, if signing on behalf of a company, organisation or Government agency.

I/we the undersigned, declare I/we have the appropriate delegation or authority to sign on behalf of the company, organisation or Government agency.

CONFLICT OF INTEREST DECLARATION: Does the applicant or lessee have any association with ACT Planning and Land Authority staff? ☒ No ☐ Yes

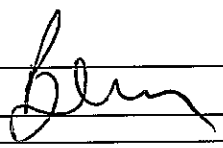
If yes, please provide details: _____

_____

_____

_____

PLEASE NOTE: *There are penalties for deliberately giving false and misleading information. The Planning and Land Authority or Minister may revoke an approval if satisfied that the approval was obtained by fraud or misrepresentation.*

				Office Use
Applicant's Signature(s)		Date	3/5/2008	Init
1st Lessee's Signature(s)		Date		Init
2nd Lessee's Signature(s)		Date		Init
Govt. Land Manager's Signature *(unleased land only)*		Date		Init
Delegate of ACTPLA Signature *(unleased land only)*		Date		Init

Annex F

Hansard of Select Committee on Estimates hearing, 28 May 2008

MRS DUNNE: Is one of those facilities Rose Cottage House?

Ms Ford: I am not aware of Rose Cottage House.

MRS DUNNE: It is down—

MR SMYTH: We refurbished Rose Cottage House, near McArthur—

Mr Hehir: it is the Symonston respite.

Ms Ford: The Symonston respite. No, the Symonston respite is purpose-built for people who have a dual disability— intellectual and a mental dysfunction—and who are at risk or come into contact with the criminal justice system and who need a very, very specialised approach over a long period of time. Generally, they are young people or adults.

MRS DUNNE: Yes. That is a highly specialised centre?

Ms Ford: Yes, highly specialised. Symonston respite is not long term. A person may stay there for up to a year or two, but it is not considered to be long term. That is considered to be an intensive therapeutic environment, whereas what we are looking at with this feasibility study is for young people for a home for life, really.

MRS DUNNE: So, with the Symonston respite centre, what advice did disability services give to the government in relation to the quite proximate location of a data centre and power station quite close to that site?

Ms Gallagher: The advice provided to me was that the centre would have to move, if that project went ahead. I agreed. If it had gone ahead in its form, it would have had to move, and we would have been expecting the consortium to pay all the costs relating its relocation and reestablishment in another site. Because of the change, the consortium's change, we will have to now look at what that smaller centre means and whether or not we still have to move.

MRS DUNNE: Do you have an idea of the dollars that it would cost to relocate that centre?

Ms Gallagher: I would say, off the top of my head, we have just spent $1.6 million doing that facility up, so my expectation is that it would be a couple of million dollars at a minimum.

MRS DUNNE: You had had discussions with the consortium about—

Ms Gallagher: It had not got to that stage formally, but that was where we were heading.

MRS DUNNE: So, had it or had it not been flagged with the consortium?

Mr Hehir: My understanding is that at officer level there was discussion around that, and, certainly, some officials ActewAGL acknowledged that it was likely that they would need to pay for the costs of relocating that facility.

MRS DUNNE: Have you had any thoughts, Mr Hehir—or anyone else—as to where that facility might be moved?

Ms Gallagher: I do not think—

Mr Hehir: We had not reached that sort of level of planning at that point. We had had initial conversations only in terms of what the impact was. We are still seeking clarification on what the impact of the revised plan would be.

MRS DUNNE: Yes, I understand that.

Mr Hehir: We will have a look at that, but we would be fairly selective in where we would go.

MRS DUNNE: How long have you known that it was on the cards that this facility might move because of the development nearby?

Mr Hehir: Our consultation occurred when the planning authority advised us as part of the DA process. We are their closest neighbour.

THE CHAIR: Okay.

MRS DUNNE: Sorry, I do not think I understood that.

THE CHAIR: It was part of the DA process.

MRS DUNNE: You only became aware of this when the DA was—

Mr Hehir: We were formally advised by the Planning and Land Authority as part of the DA process.

MRS DUNNE: Okay. Did you know before the DA was published?

Ms Gallagher: It was as public as it has been, you know.

MRS DUNNE: Look, I am asking officials, minister, whether they had been thinking before the publication of the DA in late February whether or not there was a need to address this issue. When did they first become aware? I think Mr Collett knows the answer to the question.

Mr Collett: We were aware of it through the press and through informal discussions. It was only when the DA was lodged and the environmental assessment was started that we became aware of the final configuration and the location. It is my understanding that there had been some discussions—

MRS BURKE: I thought you said you heard about it in the press—

THE CHAIR: Excuse me, Mrs Burke.

MRS BURKE: Well, I—

THE CHAIR: No, Mrs Burke, you will let the witness answer the question.

Ms Gallagher: Yes. Look, if I can answer Mrs Dunne's question which was what was the problem, the problem identified was that this respite unit was the closest neighbour by I think a couple of hundred metres from the proposed facility. That was the issue that was identified. We can go round and round and round, but the appropriate measures and response were in place—that is, we were aware of the proposed development, which has now changed, which supports my point about that I made on Friday or Thursday last week about assessments and when do they occur. Disability had advised me that because of the extremely close colocation or the facility being built next to this that it would be most appropriate, if it was to go ahead in the form that it was before yesterday, that that facility would have to move. We were putting in place the necessary processes to start that off should the development be approved in its current form, which it was not. So now we have to go and do another process and have a look at what that means.

MRS DUNNE: When were you advised that this was a possibility, minister?

THE CHAIR: I think she has—

Ms Gallagher: When was I advised what was a possibility?

MRS DUNNE: That you might have to move the facility? Gallon I cannot—it was in a conversation I had—I cannot give you the exact date. It was a verbal conversation over a month, maybe six weeks ago.

MRS DUNNE. Okay. Mr Collett, how often, in your experience of managing the assets of a large department, have you had to contemplate shifting a facility because of the interaction with a development nearby?

Mr Collett: As the minister has explained, the proposal that the facility be relocated was a way of address the issues of the impact—

MRS DUNNE: But how often have you encountered—

Mr Collett: Sorry, I was answering the question.

MRS DUNNE: Yes.

Mr Collett: It came from the proponents, not from us.

MRS DUNNE: The proponents suggested that you might move?

Mr Collett: ActewAGL, as I said in my answer to Mrs Dunne's question—sorry, Mrs Burke's question—was one of the suggestions that was made by ActewAGL to my officers when they were discussing and trying to get a better understanding of what the scale of the development was and what its potential impacts might be on an adjoining land use.

MRS DUNNE: When was that?

Mr Collett: Over the last four to six weeks.

MRS DUNNE: Okay. My actual question was, how often have you encountered a situation where you have actually had to contemplate moving a facility because of a development next door?

Ms Gallagher: Is that—I can understand why you are trying to ask that question, but is it relevant at all?

MRS DUNNE: Well, Mr Collett said it was routine. I am trying to work out how routinely does the Department of Disability, Housing and Community Services—

Ms Gallagher: I think he said the process was routine. If it is appropriate as a response—

MRS DUNNE: It is a simple question, minister—

Ms Gallagher: Yes—

MRS DUNNE: Have you thought about this before? Have you encountered this situation before where you have to contemplate moving a facility?

Ms Gallagher: I imagine Mr Collett might want to—

Mr Hehir: We certainly have had to have a think about it previously.

Annex G

We note that Mr Tom Percival of ACTPLA in his email response dated 1 May 2008 to Ms Katherine Hicks of CBR Ellis in her request for an electronic updated version of this document state "..*this study was prepared as an internal Government report to inform further work, so I need to ask what capacity you are requesting it in*.."

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[35]

Chami, Nadia

From: Hicks, Katherine @ Canberra [katherine.hicks@cbre.com.au]
Sent: Thursday, 1 May 2008 5:41 PM
To: Percival, Tom
Subject: RE: Hume Industrial Planning Study - Draft Concept Plan Report May 2007

Hello Tom,

As you may be aware we are working with ActewAGL on the Gas Power Station and Data Centre project. So it's in connection with this project that we're requesting an electronic copy . The copy of the report we have informs that the site selected for the ActewAGL project would sometime in the future be zoned for industrial purposes and it is labled as the Hume Study area. It would be useful to compare the final report issued in September with the one we have dated May 2007.

Thanks

Regards,

Katherine Hicks| Town Planner
CB Richard Ellis (V) Pty Ltd | CBRE Consulting
Level 1, 11 Lonsdale Street | Braddon, ACT 2612 | GPO Box 1987 | Canberra, ACT 2601
T 61 2 6232 2733 | F 61 2 6232 2740 | M 61 419639670
katherine.hicks@cbre.com.au | www.cbre.com.au

From: Percival, Tom [mailto:Tom.Percival@act.gov.au]
Sent: Thursday, 1 May 2008 4:59 PM
To: Hicks, Katherine @ Canberra
Subject: RE: Hume Industrial Planning Study - Draft Concept Plan Report May 2007

Katherine

Yes, a final was issued as "Final Report - September 2007". However, this study was prepared as an internal Government report to inform further work, so I need to ask what capacity you are requesting it in - ie is there another study that you are working on that it is required for?
Any questions, please call/email me

Tom Percival
Land Policy, ACT Planning and Land Authority
P: 620 71829
E: tom.percival@act.gov.au

From: Hicks, Katherine @ Canberra [mailto:katherine.hicks@cbre.com.au]
Sent: Thursday, 1 May 2008 4:28 PM
To: Percival, Tom
Subject: Hume Industrial Planning Study - Draft Concept Plan Report May 2007
Importance: High

Tom,

We have a hard copy of the Hume Industrial Planning Study – Draft Concept Plan Report May 2007. Could you confirm if this report was finalised (Ray Stone at LDA says he has a September 2007 copy), and would it be possible for us to have an electronic copy of the report?

Thanks

Annex H

The only conclusion we can draw is in line with the Hume Planning Study (HPS) – an internal government scoping document, we, the community, only gained access to on the back of *Freedom of Information* applications made by the Opposition Party in respect of this matter, but which has been available to and quoted by, the private consortium CBR Ellis in their report. We note that Mr Tom Percival of ACTPLA in his email response dated 1 May 2008 to Ms Katherine Hicks of CBR Ellis in her request for an electronic updated version of this document (annex G) stated "*..this study was prepared as an internal Government report to inform further work, so I need to ask what capacity you are requesting it in..*"

We conclude after reading the HPS that ACTEWAGL's continued interest in pushing this particular development through lies not with this development but with future industrialisation of the surrounding Broadacre land.

ACT Planning and Land Authority

Hume Industrial Planning Study

Final Report

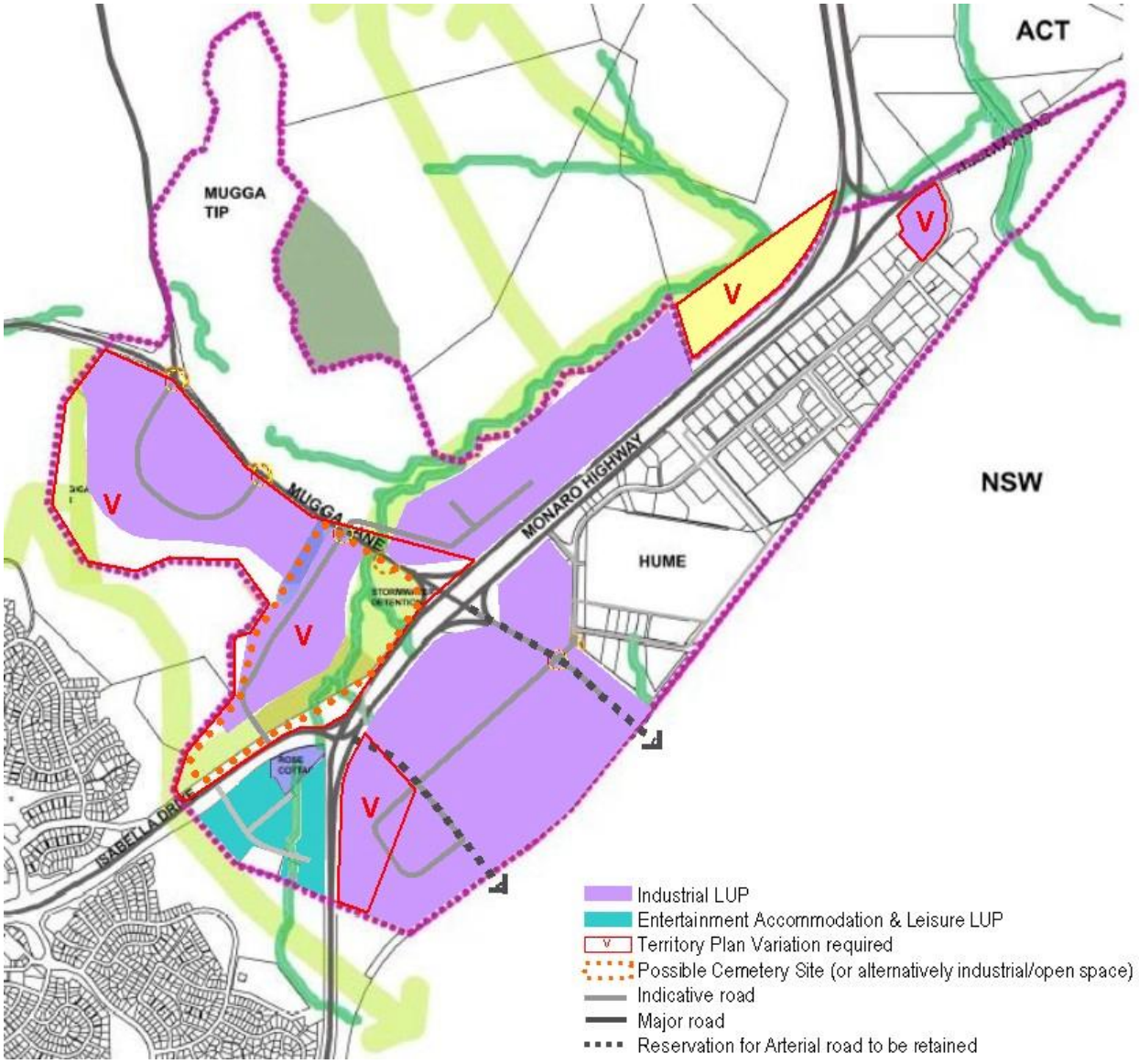
September 2007








Figure 1 Important Planning Requirements Plan



Recommendations for further work

This Planning Study has made conceptual recommendations with regards to further work required before to maximise the development opportunities and address existing constraints, including:

» Initiation of the appropriate policy and master planning processes to allow for an expansion of the industrial area;

» Rehabilitation of the northern extent of the Mugga Landfill, creation of south-wester ecological links and establishment of a riparian buffer zone across the north and west of the study area;

» Addressing traffic congestion problems by improving the capacity of the intersections at Mugga Lane, Isabella Drive, Tharwa Road and Sheppard Street;

» Investigation of options for introducing public transport in Hume;

Annex I

The proponents themselves know this proposal is not suitable for Broadacre but belongs in industrial zoned land. Here are a selection of agency views regarding the nature of this land and this proposal:

In May 2007, ACTEWAGL had determined upon a site for this proposal already on the industrial zoned Hume Industrial Estate. In their supporting documents, they mention one of the benefits of building this proposal on this site as being "*…zoned 'Industrial' and so there is no need for a variation to the Territory Plan".*

TAB D

Brief summary of the attractive features (for ActewAGL) of part Block 18 Section 23 Hume and part Block 1360 Belconnen

ActewAGL states that the Hume site is "exceptionally well suited to the proposed use" because:

- It is zoned 'Industrial' and so there is no need for a variation to the Territory Plan
- It is currently held under a rural lease that can be withdrawn with 3 months notice
- It is well located to major Commonwealth government clients
- It is readily accessibly for gas supply via a new pipe along the Monaro Highway alignment from Hindmarsh Drive
- It is close to a major substation which will provide secure backup-up power supply
- It is located adjacent to the Commonwealth Government high speed communication cable that runs along the Monaro Highway alignment
- It is easily accessible via a road off Mugga lane (through the land earmarked for the recycling estate)
- It is flat and well configured for the intended use
- It might be able to utilise methane from the adjacent Mugga landfill site.

The Belconnen land

Part Block 1360 Belconnen is close enough to the main site to permit synchronous data transmission (yet far enough away not to be affected by a localised catastrophe at the main site) and is close to an electricity sub-station and gas supply.

Planning approvals

Though both the Hume and Belconnen sites have appropriate land use zonings, power stations trigger mandatory Preliminary Assessments. A Preliminary Assessment (PA) has been done on one of the Hume land parcels (Block A) but not on the other land parcel (Block B). The LDA suggests that the requirement for a PA could be made part of the development application process.

Annex J

An email from Scott Carr of ACTEWAGL to Rod Power subject “Offer of land for gas fired power station and data centre co-development – “*We understand the importance of industrial land release and we believe that our development will naturally illustrate the benefits of such a land release program: Our proposal is an industrial land project. Whilst larger than usual it is nevertheless the type of activity that an industrial land strategy should seek to accommodate”*

[13]

Britton, Michael

From: Carr, Scott [Scott.Carr@actewagl.com.au]
Sent: Sunday, 8 July 2007 10:24 PM
To: Power, Rod
Cc: tony.adams@cbre.com.au; Welham, Ken ; steveng@goodmanlaw.com.au; Stone, Ray; Britton, Michael
Subject: Offer of land for gas fired power station and data centre co-development

Dear Rod
Further to our meeting last Friday we now understand that the Territory is considering the making of an offer to ActewAGL of a land parcel of approximately 21ha at Hume and a second site of approximately 14ha at Belconnen.

It is important to reiterate that we only have a limited window of opportunity to propose a comprehensive data centre and power infrastrucure solution to the market ahead of competition from interstate and abroad. If we offer such a solution before any comparable solution exits in the market then we stand a good chance of attracting some very high value data centre tenants to the ACT. However, in order to progress this development with our partners we must have an offer of land. It would be most useful to us if, as discussed, the offer could be expedited for receipt by us on Monday 16th July. We understand that some uncertainty has arisen with regard to the actual site (see below) and in light of this the offer could be made as a commitment to provide the land with details of the site to be determined.

From information that has been revealed only very recently to the LDA there appear to be archaeological issues associated with block 10/23 which the LDA had nominated as their preferred site with our concurrence.

Whilst we understand that the heritage unit has given assurances that the archaeological matters can be resolved and will not affect the timing of the project or development of the site we must advise that this will nevertheless be seen as a considerable impediment by potential investors in the project, particularly international investors.

Our review of the draft brief for the archaeological project, and our knowledge of the legislation, tells us that even with the best will in the world site clearance may not be achieved within the suggested timeframe. Without surety on this site the project is at risk and we must explore other opportunities.

We had previously identified block 7/21 as our preferred site. This site had the advantage of having been assessed and found suitable for a gas fired power station in 2001 and is otherwise eminently suitable. The decision to move to the 10/23 site was initiated by the LDA because they had identified 7/21 as part of an industrial land release program and were well advanced with planning for the land release.

We understand the importance of industrial land release and we believe that our development will naturally illustrate the benefits of such a land release program:

- Our proposal is an industrial land project. Whilst larger than usual it is nevertheless the type of activity that an industrial land strategy should seek to accommodate.
- The planning work that is now complete for Hume provides a very high degree of surety for block 7/21 and the surrounding area for its successful development.

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[13]

- The natural gas power station/data centre proposal will only occupy 10% of the potential developable area of Hume. The Hume Industrial Planning study draft report identifies a total of about 200ha. Much of this is zoned industrial and can be made "release-ready" in the immediate term. Development of block 7/21 will not preclude land release for general industrial uses.
- The natural gas power station/data centre project will make an excellent "flagship" for the next stages of development of the Hume industrial estate. It will add value to all the surrounding territory owned land.

We therefore wish to request the support of the Chief Minister in asking the LDA to review the industrial release program with a view to making block 7/21 available for the natural gas power station/data centre project, noting that substantial other land will continue to be available for general release in the immediate term and more can be progressively made available. This includes block 10/23 when the archaeological constraints are resolved.

Best regards,

Scott Carr
SENIOR COMMERCIAL ANALYST
ActewAGL and TransACT

Telephone 02 6248 3490
Facsimile 02 6248 3109
Mobile 0410 554 078

GPO Box 366 Canberra ACT 2601

www.actewagl.com.au www.transact.com.au

Annex K

An ACTEWAGL meeting – re the gas fired power station dated 6 August 2007 whilst clearly a mistake, as they had by this time been given by the Chief Minister (Annex L) part block 1671 Tuggeranong Broadacre – " *Appropriate land use zoning already in place (industrial)"*

Actew AGL – Meeting – Gasfired Station and Ancillary use - 6 August 2007

Present: Ross McKay, Gordon Lowe, Michael Britton, Kath Pooley, Tony Adams (consultant), Steven Gavagna& …….. (Goodman Law), Scott Carr (ActewAGL)

Tony stated that the Chief Minister has agreed to offer land for the project (21ha). 3 site options were proposed in Hume. They have selected one that best suits their requirements.

Site in Hume has been selected for one of the two new stations proposed by ActewAGL (a section of land within Block 1610). The site will be developed for a gas fired station and data communications centre.

There are Land Act issues that must be met in order to proceed with the sale. However, there is urgency to meet the tight timeframe in which to secure the investors to the project. There will be a Memorandum of Understanding between ActewAGL and investors.

There is already two planning studies including a Broadacre Planning Study that permits the use. An Economic viability report has been prepared stating the public benefit of the proposal (not site specific)

The Proponent will carry out all relevant environmental, geotechnical studies includingthe SIR
Require easement access to electricity.

Issues:
Applicants need in-principle agreement urgently of an offer of the sale of land to keep the confidence of the investors. However, they must meet governances requirements. Timing is critical.
Need for achieving Government agreement and agency advice processes to be fast-tracked
Lawyers need a timeline for everything to be completed for investors

Outcomes:
CMD and LDA to come up with a timeline for all activities that need to be done prior to an Offer.
CMD to do the political leg work and prepare the cab sub through their major projects division
LDA to undertake:
Contract negotiations in lieu of letter of offer with Alfonso Del Rio, Claytons (which has a "put" or "put" and "take" option) ,
LRCC – to obtain agency comments – (mention only gas fired and ancilliary),
Decide on a fee (based on cost to taxpayer of doing the admin work $40,000?),
Commission the survey (Tony A has co-ordinates)
Preparation of Board info
Draft lease: no sale without approval for 5 years, easement access power lines
(Including register of easement on land adjoining – Rose Cottage D).

Note: Graeme Walker has SIR for Belconnen site
Check we have the maps for the horse holding paddocks – land acquisition 6 months
Cemetries – check the status of request for land

Attachment 2: Detailed Information

Must provide full details of the development proposal

A large onsite data centre facility is proposed as a means of providing a large onsite electricity customer sufficient to underpin the viability of gas fired power station capability for the ACT. Such a co-development is expected to be economically viable and will provide the ACT with a gas fired power generation capability and will attract and retain high value tenants to the ACT.

There is an urgent demand for purpose-built data centre facilities with secure and scalable power infrastructure within the Asia-Pacific region. ActewAGL proposes to respond to this demand with an integrated gas fired power station and data centre solution ahead of competition from interstate and abroad.

The proposed solution will enable ActewAGL to properly manage power delivery and guarantee very high levels of power availability necessary for non-stop data centre operations compliant with the highest international ratings (Tier4). This will be achieved by integrating the power load (data centres), power generation, synchronisation and switching infrastructure into a single, manageable solution.

The scale and scope of the ActewAGL proposal is so advantageous that Canberra would become a regional leader in IT data centre infrastructure. The proposed development offers:

- On-site secure power supply from a gas-fired power station to be constructed by ACTEWAGL.
- Back up power from the adjacent zone substation on the Canberra existing electricity grid system,
- Back up power from a second supply point (Second supply point is currently being developed ActewAGL)
- High speed communications cable (ICT) and access to Federal government ICON network.
- Adjacent site previously assessed (2002) and found suitable for a gas-fired power station.
- Appropriate land use zoning already in place (industrial).
- A large level site well suited to immediate development.
- No other development in the Asia Pacific region offers this combination of beneficial attributes.

The success of this initiative is reliant on capturing a portion of the high-end data centre market for the ACT before it dissipates. This opportunity may be lost to the Territory if ActewAGL does not respond ahead of competition from Singapore, Hong Kong and other competing states within Australia. Securing the land for this development is necessary for the project to proceed.

LAND AREA: 21 Hectares

FLOOR AREA: Power: 2 x 500sqm
Data: 8 x 5520sqm

The generic sketch plan illustrates dual power stations and switch yards at each end of the site. This is a key design feature that enables ActewAGL to guarantee Tier 4 levels of power resilience to the data centre facilities and is believed to be a first within the Asia-Pacific region (excluding China).

PROPOSED DEVELOPMENT TIMETABLE

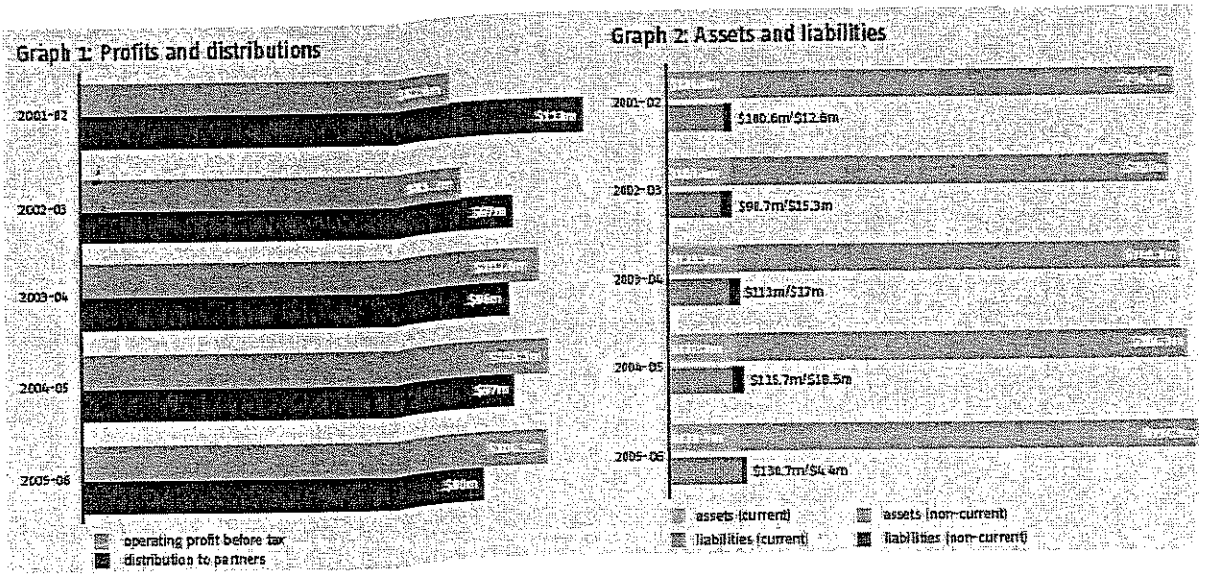
- Secure Land for Development: August 2007
- Design and Tenant Bookings: January 2008
- Construction Phase 1: October 2008
- Construction Phase 2: April 2009
- Construction Phase 3: July 2009

ESTIMATED DEVELOPMENT EXPENDITURE

- $1.5B capital investment over 25yrs

Must demonstrate to the Planning and Land Authority the financial capacity to develop and manage the land

ActewAGL is a profitable company in its own right and has access to the organisational and financial resources of ACTEW Corporation, AGL and the Alinta group of companies. A summary of ActewAGL Profits and Distributions as well as ActewAGL Assets and Liabilities are illustrated below.



Must demonstrate to the Planning and Land Authority the non-financial capacity to develop and manage the land, including details of expertise, resources and experience to undertake the development

As the licensed utility in the ACT, ActewAGL Distribution is responsible for the electricity, gas, water and waste water infrastructure, including the development and management of all associated facilities and land, in the ACT. Consequently, ActewAGL is uniquely equipped with significant expertise, resources and experience necessary to undertake this development.

ActewAGL is finalising negotiations with prospective partners with regard to the development, management, operations and maintenance of the data centre component. A key

Annex L

They [ActewAGL] had by this time been given by the Chief Minister part block 1671 Tuggeranong Broadacre

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BRIEF

CHIEF MINISTER'S DEPARTMENT

Ref:

Date July 2007 CMD-M07/225

To Chief Minister

From [redacted]

Subject ActewAGL Request for Land for a Gas-fired Power Station

- cc Acting Chief Executive, Treasury

Critical date and reason
URGENT – ActewAGL seeks an immediate offer of a lease over a portion of Block 18 Section 23 Hume.

Purpose
To seek your signature on *two* responses (Tabs A and B) to ActewAGL's proposal.

Background
The chief executive officer of ActewAGL (John Mackay AM) wrote to you on 9 May 2007 (Tab C) and 22 May 2007 (Tab D) outlining his company's proposal for a gas-fired power station and associated data centre (and backup facility). He asked you to issue a ministerial direction under s.44 of the *Planning and Land Act* to facilitate a direct sale of part Block 18 Section 23 Hume to ActewAGL. You requested advice from CMD and Treasury. The proposal involves:

- A gas-fired power station initially generating 75 MWh (increasing over time to 150 MWh) on three hectares of Industrial land at part Block 18 Section 23 Hume – this station would sell electricity to:
- A 'mission-critical' data centre on 19 hectares of land and consisting of eight data pods to be leased to commercial customers requiring premium data storage. In addition:
- ActewAGL is seeking to acquire 14 hectares of Broadacre land on part Block 1360 Belconnen to provide a disaster recovery backup site.

Issues
Land – The Land Development Agency (LDA) has liaised closely with ActewAGL to identify sites satisfactory to ActewAGL: part Block 18 Section 23 Hume and part Block 1360 Belconnen. The former is zoned for Industrial use while the latter is zoned as Broadacre. The Hume site comprises 21.5 hectares and the Belconnen site 14.3 hectares.

Other sites – There are two other possible sites in Hume: Industrial-zoned land at Block 7 Section 21(to the southeast of the Monaro Highway) and the Broadacre site at Block 1610, District of Tuggeranong (located on the western side of the Monaro Highway south of Mugga lane). The Department of Territory and Municipal Services (TAMS) is about to bring forward a cabinet submission seeking approval to use part Block 1610 for a cemetery. Agreeing to this usage would remove it from being considered for the power station and data centre. In view of the importance of resolving a specific site for the ActewAGL proposal, it is considered TAMS should be advised that the cabinet submission should be deferred until you have determined which of the three sites is to

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be offered to ActewAGL. LDA and CMD are currently assessing the three sites and will shortly bring forward a separate brief.

Heritage issues (Aboriginal stone artifacts) have been identified near the southern end of Block 18 Section 23 Hume and Heritage ACT recommends a detailed heritage study be undertaken. The study would extend onto Block 18. The estimated cost of the study is $100,000. Heritage ACT does *not* expect the study to lead to withdrawing the area from development and has undertaken to provide the LDA with a written assurance to this effect. ActewAGL has undertaken to fund the heritage study.

ActewAGL's ranking of possible sites – In light of the uncertainty created by the need for the heritage study, ActewAGL now advises that its ranking of the Hume sites is now:

- First, the site originally sought at Block 7 Section 21;
- Second, the site at part Block 18 Section 23 *provided* the heritage study lasted not longer than three months and that ACT Heritage could assure both the Government and ActewAGL that development could proceed after that time (no matter what was found on the site); and
- Third, the Broadacre site at Block 1610, District of Tuggeranong.

From the point of view of releasing Industrial land onto the market in the near future, the LDA and CMD prefer the site at part Block 18 Section 23 because it is not immediately earmarked for release. By way of contrast, Block 7 Section 21 is currently being prepared for sale in the near future by the LDA to meet the current high demand for Industrial estates in Hume; therefore, if this site becomes the final one offered to ActewAGL, there would be an urgent need to identify other replacement land for release The Broadacre site has the merit that it would not utilise Industrial land at all (a power station/major utility installation is a permissible use on the Broadacre zoning).

Valuations - The LDA has obtained a valuation (dated 18 June 2007) of part Block 18 Section 23 Hume and part Block 1360 Belconnen. The former is valued at $15m (which equates to $70/sqm) and the Belconnen site is valued at $3.575m ($25/sqm) – total is $18.575m.

The valuation of the Hume sites appears very low, given that Industrial estates have sold recently for $200 to $300/sqm. It is also way below what ActewAGL is budgeting for land acquisition (total of $50m for the Hume and Belconnen sites). Therefore, the valuation needs to be revisited and, until this is done, it would not be wise to discuss potential sale prices with ActewAGL.

Non-refimdable deposit – ActewAGL is willing to pay a non-refundable deposit to reserve suitable land. A suitable fee can be determined once the specific site is selected

Business case – ActewAGL has not provided a Business Case setting out the costs and benefits of the proposal, though it has provided a draft Economic Impact Statement – this, however, is deficient in that it does not adequately address the costs, especially the risks associated with the proposal from the Territory's perspective. ActewAGL should be required to produce a detailed Business Case for discussion with Treasury that addresses (*inter alia*):

- The rationale for a gas-fired power station in the ACT needs to be established;
- The investment is significant and would carry some risk. According to the Draft Economic Impact Statement, the capital investment in the power generator and data centre is $316m. Annual operating expenditure is estimated at $186m. The proposal appears to indicate that ActewAGL would own 51% of the power generator and 25% of the data centre:
  - While the existence of external investors may give some comfort in regard to the merits of the proposal, this was also thought to be the case with the Government's $60m investment in TransACT, which has been written down to zero;

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- The proposal is likely to be a source of considerable gas sales revenue to AGL. The economic cost and benefit analysis would need to show that the arrangements for gas purchase were reasonable, to ensure that there was no transfer of profit from the jointly held generator to AGL;
- The investment in the data centre is significantly more than the generator. While the latter could be considered part of ActewAGL's core business and has an element of public good (security of ACT power needs), it is questionable as to why the ACT Government would seek to indirectly invest in a commercial data centre;
- The proposal needs to establish why the ACT is well located for a data centre and why we are best placed to build and operate such a centre;
- Gas-fired power stations need a considerable volume of water so the detailed economic cost and benefit analysis needs to show where this water will be sourced.

Ministerial direction – Though ActewAGL has asked you to issue a ministerial direction to the LDA, this is not necessary as the LDA is cooperating fully with ActwewAGL in identifying suitable land and is willing to reserve such land for 12 months pending confirmation by ActewAGL that it intends to go ahead with the proposal.

National Capital Authority (NCA) involvement – The NCA has planning control over approach routes to Canberra and has already developed a Development Control Plan for Hume, which will need to be complied with.

Consultation
Treasury supports this brief and may provide an additional brief addressing shareholder issues. TAMS and the LDA were consulted in its preparation.

Financial
Subject to confirmation in a detailed Business Case, the proposal appears to have significant economic benefits to the Territory, including by way of attracting new business to the ACT and providing a backup source of power. As stated above, there would need to be replacement industrial land found urgently if ActewAGL acquires Block 7 Section 21 Hume, which is currently being prepared for release.

Media
The media will be very interested in your response to Mr. Mackay and a suitable media release will be prepared once you consider this brief.

Two responses to ActewAGL
It is suggested that you sign two letters to Mr Mackay, the shorter one informing him of the Government's in-principle support of the proposal and designed to assist his company's efforts in attracting co-investors; the longer one setting out more details of what ActewAGL will need to address in relation to obtaining the Government's support for the direct sale to be finalised.

Recommendation
That you sign the two letters to Mr Mackay at Tabs A and B.

Pam Davoren
Contact Officer: Rod Power
Phone: x50887

Jon Stanhope MLA ..... / /
AGREED/NOT AGREED/NOTED/PLEASE DISCUSS
18/7/07

Annex M

Unacknowledged report on the application PA –*The appearance of 4 storey buildings fronting Long Gully Road is questionable. The road has a distinctive rural character which could be lost with a development of this scale. Alternatives [sic] sites at Hume or Symonston which have developments of this scale would be more appropriate. – While Hume Industrial Planning Study and Southern Broadacre study both recommend this site be zoned to accommodate an expansion of the Hume Industrial area this would possibly be in the distant future. Construction of this site indicates expansion of this zone is a certainty"*

You will note another indication there will be intended office spaces – something specifically prohibited under Broadacre use "*This site is remote from public transport and facilities. This will require all 203 people eventually employed on the site to drive to work."* (Obviously the number of people working here is unclear. There are clearly several floors of air-conditioned office spaces on the plans – although estimates of how many people will indeed work there have varied from 600 to 5).

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Preliminary Assessment for Canberra Technology City
Block 1671 Tuggeranong District

Components:
1. Construction of a Natural Gas Power Station and its associated Electricity Switchyard/Substation (Major Utility Installation);
2. Construction of Computer Data Centres (Communications Facility);
3. Construction of overhead high voltage power lines from the existing electricity power lines to the power station transformer yard and;
4. Construction of a high pressure natural gas pipeline to provide fuel for the power station.

Questions:

General:

- Strong support for the intended use, however the PA appears not to address basic information supporting site selection and the requirement for a power station.

Site:

- No information is provided as to why this site has been chosen over any other. Given the abundance of comparable broadacre sites, a matrix indicating the order of importance for site selection prerequisites & a comparison between other suitable sites would be useful to understand that this is the best location for this proposal.

- The appearance of 4 storey buildings fronting Long Gulley road is questionable. The road has a distinctive rural character which could be lost with a development of this scale. Alternatives sites at Hume or Symonston, which have developments of this scale would be more appropriate.

- While the Hume Industrial Planning Study and the Southern Broad acre study both recommend this site be zoned to accommodate an expansion of the Hume industrial area, this would possibly be in the distant future. Construction of this site indicates expansion of this zone is a certainty.

- The site is remote from public transport and facilities. This will require all 203 people eventually employed on the site to drive to work. This does not reflect ActewAGL's statement on their web site regarding the development: *"...our commitment to the environment will also be demonstrated by helping to deliver an environmentally friendly data centre campus that leads the industry in reducing the carbon footprint of such facilities."* Private car usage is a major contributor to carbon emissions.

- Could the power station be remote from the computer data centre? This would enable the data centre to be located in an area with reasonable public transport and facilities.

- Locating the data centre and possibly power station in Hume and especially Symonston may reduce the need for sewer and water main upgrades.

Power Station

- No background is given as to why the gas fired power station is required. I assume it is to provide a guaranteed uninterrupted supply, however this is not stated. Isn't the existing grid able to supply the additional demand?

- Will the proposal be able to supply power at a cheaper price? Given the undoubted community opposition to a power station, further explanation of why this is the best solution is required.

- The project displays some energy efficient features; however this is a significant opportunity to demonstrate more environmentally sustainable technology. The large roof area offers potential for a considerable area of photo voltaic cells to supplement power needs; however this is not discussed in the PA. Government incentives to install domestic photovoltaic cells indicate current technology is economically feasible.

Annex N

This is not something lost on Mr Tom Pecival of ACTPLA who in an email to Deedman dated 25 February 2008 subject Block 1671 Tuggeranong - confirmed this as an ongoing if unexpected result of situating the Power Station and Data Centre on block 1610 "*in particular the LDA has recently been developing planning intentions for continuing development of the Hume Resource Recovery Estate on Blocks 16 & pt 11 Sec 23 Hume in the short term and infra-structure works could be carried out concurrently*"

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Chami, Nadia

From: Percival, Tom
Sent: Monday, 25 February 2008 11:38 AM
To: Deedman
Cc: Gianakis, Steven
Subject: Block 1671 Tuggeranong

Thankyou for referring the draft Prescribed Conditions and Site Investigation Report for **Block 1671 Tuggeranong District** to Land Use Planning for comment.

Land Use Planning Section completed the Hume Industrial Planning Study in September 2007, which reviewed the potential for future industrial development in the Hume area. This included consideration of this block and the surrounding land. The study recommended that future industrial development should be accommodated through expansion of the Hume area, including the portion of Block 1610 Tuggeranong fronting to Mugga Lane.

The subject block is currently unserviced as is much of the surrounding land identified for future development. The infrastructure design and servicing for this block should consider the potential development in the area, not only this block. In particular, LDA has recently been developing planning intentions for continuing development of the Hume Resource Recovery Estate on Blocks 16 & pt18 Sec 23 Hume in the short term, and infrastructure works could be carried out concurrently.

If you would like to discuss any aspect of these comments, please call/email me.

Tom Percival
Metropolitan Development and Land Supply
ACT Planning and Land Authority
P: 620 71829
E: tom.percival@act.gov.au

Annex O

States *"The data centre may well be a communications facility under the Territory Plan, however it will employ over 200 people. This makes it more akin to an 'office use'. The implications of locating this office use in proximity to a power station need to be identified and assessed" –*

It goes on to say *" The PA cites recent studies and indicates that the site is likely to be re-zoned from Broadacre to Industrial to accommodate the expansion of industrial uses in this locality. In this regard the PA did not assess the implications of the data centre and its 200 workers being located in an area of relatively heavy industry".*

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ACT Planning and Land Authority - Urban Design Policy
Comments on the PA for the:
"Gas fired power station, switch yard/electricity sub station, 132kV powerlines, 9km gas pipeline and data centre"
at Block 1671 District of Tuggeranong

1. **General comments on the Information provided in the Preliminary Assessment (PA)**

   The following comments relate to the information provided in the PA. In this regard, the PA did not consistently provide sufficient information on, or analysis of all potential environmental impacts of the proposal. This made it difficult to make meaningful comment on the potential impacts of the proposal.

   In addition, there was no information as to how the site was selected for the proposed uses or if any other sites were investigated.

2. **Specific comments on the PA**

   Potential impacts of the power station on the amenity of the data centre

   There is no assessment undertaken in the PA on the potential impacts of the proposed power station on the amenity of the data centre. The PA does not discuss whether the data centre and power station actually need to be located on the same site or in proximity to each other. The data centre may well be a 'communications facility' under the Territory Plan, however it will employ over 200 people. This makes it more akin to an 'office' use. The implications of locating this office use in proximity to a power station need to be identified and assessed.

   Heavy industry in Hume

   The PA cites recent studies and indicates that the site is likely to be rezoned from Broad Acre to Industrial to accommodate the expansion of industrial uses in this locality. In this regard, the PA did not assess the implications of the data centre and its 200 workers, being located in an area of relatively heavy industry. Information should have included:

   - The future amenity of the data centre with industrial development surrounding it; and
   - The impact of the data centre in terms of constraining further industrial uses in this area.

   Future expansion of the power station

   The PA states that the primary purpose of the power station is to meet the energy requirements of the data centre. In essence it is a 'boutique' power station. The area of land allocated for the power station, the size of the turbines and all other related infrastructure limit the power station to this one key function.

Annex P

We note in response to this issue against the Territory Plan (Part A3) t) Impacts on public health and safety including crime prevention - the proponents have stated "*Security provided, comments will be provided by AFP through PA consultation."* We have not seen the AFP report in the PA documents. We have not seen any considered and detailed response to the issues of Public Health and Safety.

RELEVANT CLAUSES FROM TERRITORY PLAN	ASSESSMENT OFFICER COMMENTS
s) the adequacy of community facilities and services;	**NA**
t) impacts on public health and safety, including crime prevention;	**Security provided. Comments will be provided by AFP through PA consultation.**
u) impacts on public infrastructure investment;	**This is investment in infrastructure – upgrade of both energy and communications provision.**
v) impacts on the likely accessibility to facilities and services for users and consumers;	**X**
w) the efficient use of energy (including solar energy) and resources;	**X**
x) the provisions of any Lease or Development Conditions applying to the area; and	**NA**
y) the provisions of any relevant draft Plan of Management or Community Value Statement prepared and submitted to the Minister in accordance with clause 13.2.	**NA**