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Public Health Value of Disclosed Cigarette Ingredients and Emissions Data

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Summary of key outcomes, research context, research design and key findings

EXECUTIVE SUMMARY

1.1 Key outcomes

Current disclosure

- The Voluntary Agreement for the Disclosure of the Ingredients of Cigarettes can be viewed as a first step towards improved future tobacco product disclosure.
- Tobacco control stakeholders, smokers, and non-smokers, who participated in the research, saw access to disclosed tobacco product information as a consumer right.
- However, it is unlikely that the health of Australians has been directly promoted or protected through making information about the ingredients and emissions of cigarettes available to the public under the Agreement.
    - In research with smokers, non-smokers, and tobacco control stakeholders, the currently disclosed emissions and ingredient information was seen to be incomprehensible, uninteresting, incomplete, and difficult to access.
    - Most members of the public had not and did not intend to access the information.
    - Providing members of the public with the disclosed information did not seem to discourage them from smoking.
- A small number of tobacco control stakeholders had made some use of the emissions and ingredient data to inform policy development and communications.

Future disclosure

- Future disclosure should
    - recognise the disclosure of tobacco product information as a consumer right, as per other consumer products; and
    - seek to promote and protect the health of Australians.
- It unlikely that the health of Australians will be directly promoted and protected through disclosing tobacco product information to the public. This objective is more likely to be met through using disclosed information to inform government policy, public health initiatives and communications, tobacco control research, and future tobacco product regulation.
- The Australian Government should consider regulating disclosure for all tobacco products sold in Australia,
    - to ensure the accuracy, comprehensiveness and comprehensibility of disclosed tobacco product information;
    - to access more detailed product and manufacturing information than is currently disclosed under the Agreement;
    - to allow the Government to specify the format in which tobacco product information is disclosed; and
    - to enable the Government to make changes to the disclosure arrangements when it determines that changes are necessary.
- The behavioural effects of tobacco product information should be properly understood before any disclosed information is promoted to the public.

1.2 Background

In December 2000, the Government formalised a *Voluntary Agreement for the Disclosure of the Ingredients of Cigarettes (Voluntary Agreement)* with three Australian tobacco companies (Phillip Morris Limited [PML], British American Tobacco Australia [BATA] and Imperial Tobacco Australia [ITA]) to disclose cigarette ingredient data to the public. Annual reports on cigarette ingredients are provided to the Department of Health and Ageing and posted unmodified on the Departmental website. The data from each company include by-brand variant lists of ingredients; a composite list of tobacco ingredients; and a composite list of non-tobacco ingredients.

In 2001, in the spirit of the Voluntary Agreement, tobacco manufacturers agreed to undertake cigarette emissions testing of selected Australian cigarette brand variants and to supply the results to the Department, on a one-off basis.

1.3 Research objectives

The overall research objective was to assess the effectiveness of the current disclosure of cigarette ingredient and emission data by determining the public health value of disclosing this type of information. This assessment included the following objectives:

- assess the perceived importance of public disclosure of cigarette ingredients and emissions;
- assess comprehension of the cigarette ingredient and emission data; and
- assess the perceived accuracy and completeness of the information.

This research project was undertaken to:

- assess the effectiveness of Australia's current voluntary disclosure arrangements;
- help inform future potential disclosure;
- inform elements of a Ministerial Council on Drug Strategy (MCDS) feasibility study into the formal disclosure of ingredients in tobacco products; and
- provide the Australian Government with background information in connection with Article 9 and Article 10 of the World Health Organization Framework Convention on Tobacco Control (FCTC).

1.4 Research design

The research involved group discussions with smokers and non-smokers, depth interviews with recent quitters, and depth interviews with tobacco control stakeholders. Fieldwork was conducted between 3 October and 4 November 2008.

Group discussions and depth interviews: smokers and non-smokers

Ten mixed-gender group discussions were conducted with adult smokers. Two single-gender discussions were conducted with teenage smokers.

Adult smokers were grouped according to:

- their age (18-34, 35-49, 50-65);
- whether or not they were seriously considering quitting; and
- their social economic status (SES) (low-medium or medium-high).

One mixed-gender group discussion was conducted with adult non-smokers aged 18-24 years; two single-gender groups were conducted with teenagers who had never tried smoking; and one mixed gender group was conducted with non-smoking parents of teenagers.

Eight depth interviews were conducted with recent quitters.

Fieldwork was conducted in Sydney, Melbourne, Adelaide, Lithgow, Ballarat, Orange, Katoomba and Geelong.

Depth interviews with tobacco control stakeholders

A list of twenty nine tobacco control stakeholders in Australia, New Zealand and Canada was supplied by the Department, and these twenty nine were invited to nominate other tobacco control stakeholders to be interviewed. Thirty-three interviews were conducted with tobacco control stakeholders, including the additional nominees approved by the Department, and excluding those who declined to be interviewed. Interviews were conducted in all Australian states and territories. Tobacco control stakeholders were drawn from state government departments, Cancer Councils, Quit state offices, universities, and other relevant tobacco control organisations. New Zealand and Canadian tobacco control stakeholders were drawn from the national health department of each country. In addition, written input was received from the Department of Health in the United Kingdom.

1.5 Key findings

Smokers and non-smokers

Pre-existing knowledge

Participants' knowledge of cigarette ingredients and cigarette emissions constituents was poor. When asked, most could list no more than two or three ingredients, and many had misconceptions about what was in cigarettes or in cigarette emissions. While "tobacco" was almost always included among the named ingredients, "nicotine" and "tar" were also commonly believed to be cigarette ingredients. Most participants found it difficult to name cigarette emissions constituents. Only a very small minority mentioned more than two or three. The emissions that were most often mentioned were "carbon monoxide", "carbon dioxide" and

"CO_2". Many also referred to "chemicals", "poisons", "toxins", "harmful stuff" and, occasionally, "carcinogens".

Interest in information, and expectations

Participants were rarely more than mildly curious about cigarette ingredient or emissions data, and most did not intend to seek out further information. Almost none had previously sought such data, and many observed that they did not want to know about ingredients and emissions at all. Participants nevertheless strongly believed that the information should be made available for those who might want it.

When told about the Voluntary Agreement, but before viewing examples of the disclosed data, most participants anticipated that the Department of Health and Ageing website would include information about the health consequences of specific ingredients and emissions.

Information sources

Participants generally had little recollection of seeing any cigarette ingredients or emissions information in the past. Across all groups, most participants explained that if they wanted to find out more about cigarette ingredients and emissions, they would use Google to look on the internet. They expected to find information on the websites of government departments or agencies, the Cancer Councils or similar bodies, QUIT, or tobacco companies.

Many participants assumed that most or all sources would be biased to some extent and that any information provided would have been selected or slanted to reinforce a particular agenda.

General reactions to ingredients and emissions data

In reaction to examples of the ingredients and emissions data, participants generally described themselves as overwhelmed by their quantity and complexity, and had difficulty comprehending all the information. Participants' confusion suggested that the disclosed information was inconsistent with the preamble of the Voluntary Agreement: "information on ingredients should be made available in a way that effectively informs the public".

The information was seen to be largely irrelevant because the chemical names were unfamiliar; or because it was impossible to interpret the data in the absence of information about the health effects of each chemical; or because participants did not know the effects of combustion on even those ingredients with which they were familiar.

The presentation of the information was usually perceived as dull and technical. Participants found the presentation neither encouraging nor inviting. However, this was not seen as a serious problem because they had little interest in accessing it anyway.

Reactions to by-brand ingredients data

Many participants suspected that the by-brand variant ingredients data were incomplete and deceptive.

Some participants appreciated the absence of confusing technical terms and unfamiliar chemical names in the by-brand ingredients list, although the notes beneath the ingredients list, and the cross-references to other documents, were confusing for participants. The cross-references also reinforced doubts about the information's completeness. Many thought that information about the proportions of the ingredients in each product should have been shown.

The information did not lead participants to perceive smoking as more dangerous than they had done in the past. For many, the information had no impact at all on their perception of the risks of smoking.

For some smokers, especially those not intending to quit, the information appeared to make some cigarettes seem less dangerous. In some cases, this was because those cigarettes had ingredients, like honey or cocoa, that were perceived to be "natural" and therefore associated with little or no risk. In other cases where there were very few ingredients listed, this led some to perceive these cigarettes as less adulterated and therefore as safer.

Reactions to composite ingredients data

Most participants had difficulty understanding the composite ingredients list, and its relation to the by-brand variant lists. Participants were unfamiliar with many of the listed chemicals and were unsure whether the chemicals appeared in all, most, some, or only a few cigarettes. The functions listed in the "Function" column were generally seen to be confusing in their lack of explanatory detail.

Having read the composite ingredients list, participants usually concluded that there were far more chemicals in cigarettes than they had previously thought. However, most already thought of cigarettes as harmful, so this additional information had no substantial impact on them. Other participants concluded that cigarettes are complex products that contain many chemicals, but did not interpret that complexity as an indication of harmfulness.

Some participants described the listed quantities as meaningless in the absence of information about the harms derived from exposure to each ingredient.

It should be noted that the very long list of chemicals contributed to a general perception of cigarettes as a manufactured, engineered and highly artificial product. Some smokers ascribed the harmfulness of cigarettes mainly to the additives, rather than to the tobacco, and saw the composite ingredients data as supporting their belief that less adulterated tobacco products were probably safer.

Reactions to non-tobacco ingredients data

Most group participants had previously given little, if any, thought to the composition of non-tobacco ingredients, or to the effects of smoking non-tobacco ingredients like paper.

Some were surprised by the number of chemicals in tobacco paper but, in general, this information had little impact on participants.

Reactions to emissions data

The cigarette emissions data were seen by many participants as more relevant than the ingredients data, but were also seen as being difficult to understand. Participants were confused about a number of points: the differences between the standard and intensive testing methods (when this distinction was noticed); the meanings of "mainstream" and "sidestream"; the differences between nano-, micro- and milligrams; and the nature of the statistical information provided.

Participants perceived many of the reported chemicals as harmful, and some were surprised by the number of chemicals present in cigarette emissions. For some, this seemed to reinforce their sense of the harmfulness of smoking. But this perception of harm was weakened because participants were unable to assess whether the reported quantities of each chemical represented a harmful amount.

Only when urged to look closely at the information did participants draw (sometimes erroneous) conclusions about the relative yields (and assumed harmfulness) of different variants of cigarettes and of mainstream and sidestream smoke.

Impact of ingredients and emissions data

The research with smokers and non-smokers suggests that the disclosed ingredients and emissions data are unlikely to substantially affect the attitudes or behaviour of smokers or non-smokers. Participants had little curiosity about the information and would not seek it out. When they were given examples of the information, they found it difficult to understand. And when they did come to understand the disclosed information better, they saw it as being of limited relevance to them because the health impact of each ingredient and emission constituent was not explained.

Smokers and non-smokers tended to interpret the data in subtly different ways, probably so as to rationalise their existing behaviour. Smokers who did not intend to quit often looked for information that suggested that cigarettes were not as dangerous as they had been led to believe. Smokers intending to quit were more likely to be sceptical about the relative safety of the "natural" ingredients. Non-smokers and recent quitters were even more sceptical, tending

to be quick to point out that, while the ingredients might be "natural", smoking them was likely to be harmful.

There is a risk that, if they were to look at the information, some smokers could draw misleading conclusions about the harm associated with smoking. However, this risk is negligible given the lack of interest in seeking the information, the difficulty in locating it, and the problems in comprehending it.

Access to information

Even though most had no inclination to access the information, participants almost universally believed that access to the disclosed ingredients and emissions data was a right owed to them as consumers. The Voluntary Agreement states that "it is important that consumers have information concerning the ingredients of tobacco products". Most participants strongly supported the idea that the information should be available, but almost none intended to access it themselves; that is to say, they did not want to have the information, but they did want, as a matter of principle, to have access to it.

Many felt that the obligations of tobacco companies should be no different from other industries—like food and beverage manufacturing—in which extensive disclosure of ingredients is required. Almost all believed that the tobacco industry should be required by law to provide information on ingredients and emissions. Others drew parallels with regulated products like pharmaceuticals and poisons and a few assumed that tobacco products would be, in some sense, regulated and approved for sale by government.

Most participants saw it as a responsibility of government to make comprehensive and comprehensible ingredients and emissions information publicly available for those who might want it.

Many suggested that the information might be needed by health experts, even if it was of limited interest or use to the general public.

Some thought that the government should verify the information or conduct independent testing prior to making the information public.

Most participants saw the internet as an appropriate and adequate way of providing the information.

Tobacco control stakeholders

Use of disclosed data

Most tobacco control stakeholders had not used the disclosed ingredients and emissions information in their work. Some who had not used it professionally had nevertheless accessed the information out of curiosity. Others had never previously accessed the information, and a small number had not known of its existence.

Those tobacco control stakeholders who had accessed the information for reasons other than personal curiosity had done so for a range of reasons: to learn more about ingredients and/or emissions, with a view to informing their work regarding the regulation of tobacco products; to inform policy regarding the use of flavours, palatability aids and menthol in cigarettes; to inform policy and communications regarding "light" or "mild" cigarettes; or to aid their understanding of how particular cigarettes might be smoked to achieve a given dose of nicotine.

Accuracy and comprehensiveness of disclosed data

Many tobacco control stakeholders believed or suspected that, contrary to the objective of the Voluntary Agreement to provide "accurate information to the public", the disclosed ingredients lists were incomplete and/or inaccurate. Some tobacco control stakeholders noted that internal tobacco industry documents indicated the use of ingredients that did not appear on the lists. Some suspected that the lack of a definition or full disclosure of "processing aids" meant that some ingredients had been omitted from the lists. The unenforceability of the Agreement, and some tobacco control stakeholders' belief that the tobacco companies had been deceptive in the past, also led some to assume that the information was incomplete.

Many tobacco control stakeholders perceived the emissions data to be lacking validity because of deficiencies in testing methods and because yields vary according to puff intensity, frequency and volume, but some saw the data as nevertheless useful.

The disclosed ingredients data were seen to lack proportional ingredient information relating to specific brands; cultivation and hybridisation information about the tobacco used, and the consequent properties of the tobacco; the tobacco treatment or drying techniques; and information about the cigarette's engineering. There was also some concern expressed that the data only covered cigarettes and not a variety of other tobacco products.

Comprehensibility of disclosed data

Tobacco control stakeholders saw the ingredients data as difficult to interpret, both because of their doubts about the lists' accuracy, and because they saw the explanations of the functions of ingredients as simplistic or unreliable.

The emissions data were generally thought to convey some meaning to experts, at least in terms of the chemicals emitted, but some tobacco control stakeholders thought that their own ability to interpret the data was limited by their lack of knowledge about chemistry.

Some tobacco control stakeholders preferred not to comment on the extent to which the general public could understand the disclosed ingredients and emissions data, but most assumed that the public would find the information difficult to understand. However, tobacco control stakeholders saw this failure as being a relatively insignificant problem, given the lack of evidence that more comprehensible information would produce public health benefits.

Potential value of ingredients and emissions disclosure

The disclosed data were also seen as important for informing debate and policy decisions within governments and the public health community. Some saw historical data as being of value to government and the public health community to monitor changes in the composition of tobacco products. Many also saw disclosure as strategically valuable, in that it was a step along the path to the regulation of tobacco product ingredients and/or emissions.

The current disclosure of cigarette ingredients and emissions data to the public was generally seen as having no *direct* public health value, contrary to the Agreement's objective to "promote and protect the health of Australians".

Most tobacco control stakeholders saw access to ingredients and emissions data as a consumer right.

Location of information

Most tobacco control stakeholders thought that the Departmental website was an appropriate location for the information, but they found it difficult to locate the information on the website. Although many did not believe there was sufficient evidence to warrant promoting the information to the public, some thought that the information should be more accessible.

Responsibility for disclosure

Tobacco control stakeholders believed that tobacco companies should bear the costs associated with ingredients and emissions disclosure, but they expected the Australian Government to manage and enforce disclosure. They thought that disclosure should be managed through legislation or a legislative instrument.

Mandatory vs. voluntary disclosure

All tobacco control stakeholders saw the current Voluntary Agreement as unsatisfactory because:

- it cannot be enforced;
- tobacco companies cannot be punished for failure to comply;
- it does not include comprehensive and recent emissions data;
- the disclosed data are limited to what the industry was willing to provide (with respect both to the types of products covered and the information provided about them);
- it does not allow for additional information to be sought from the tobacco companies; and
- it allows industry to claim, without justification, to be candid and cooperative.

Almost all tobacco control stakeholders believed that tobacco companies should be required by law to disclose ingredients and emissions data, and any other information (for example, cigarette engineering information, or information about the various types of tobacco leaf used) that may be required in the interest of public health.

1.6 Findings in relation to preamble of Voluntary Agreement

Preamble A:

"It is important that consumers have information concerning the ingredients of tobacco products."

- There was widespread and strong support among smokers, non-smokers and tobacco control stakeholders, for having the information available to the public. Being able to access information about tobacco products was seen as a consumer right. However, members of the public did not want or intend to access such information themselves, because they had
    - no particular interest in understanding cigarette ingredients or emissions; or
    - did not see it as an important health resource; or
    - had no desire to seek out information that might have been at odds with their decision to smoke.

- The evidence from this research indicates that providing members of the public with the currently-disclosed tobacco product information does not discourage them from smoking. In group discussions with smokers and non-smokers, and in interviews with recent quitters, the examples of the disclosed information did not perceivably increase participants' sense of the harmfulness of smoking, and some smokers were reassured by the perceived "naturalness" of some ingredients.

- Some tobacco control stakeholders noted that there was a lack of disclosure for non-cigarette tobacco products, and for tobacco companies and brands outside the Agreement.

Preamble B:

"Information on ingredients should be made available in a way that effectively informs the public."

- Research with members of the public indicates that the information as it is currently disclosed does not "effectively inform" the public. Smokers and non-smokers had difficulty comprehending the information and were mostly left confused about what was in cigarettes and whether the information was comprehensive and accurate.

- Few members of public were aware of, or had accessed, the information, indicating that it had not been "made available in a way that effectively informs the public".

- The information that smokers and non-smokers wanted was not provided; for example, many wanted a description of the health effects of each chemical or additive.

Preamble C:

"Information on ingredients should be made available in a way that protects the confidentiality of tobacco manufacturers' trade secrets, and which does not impose unreasonable burdens on tobacco manufacturers with respect to the time, cost and effort required to compile and disclose the information."

- Many tobacco control stakeholders argued that tobacco manufacturers' right to commercial confidentiality should be considered invalid because their products cause the deaths of many of their consumers, when used as directed.

- Some international tobacco control stakeholders with experience in more comprehensive disclosure regimes overseas observed that requiring tobacco companies to compile and disclose large volumes of information would not be unreasonably burdensome for the companies as they usually had such information readily available.

1.7 Findings in relation to objective of Voluntary Agreement

"The object of this Agreement is to promote and protect the health of Australians by facilitating the provision of accurate information to the public about the ingredients of cigarettes".

- Most smokers, non-smokers and tobacco control stakeholders were unsure or sceptical about the accuracy of the disclosed information.
- Irrespective of its accuracy, smokers, non-smokers and tobacco control stakeholders had difficulty comprehending the disclosed information.
- Smokers and non-smokers thought that the information should be provided, but were disinclined to access it, and generally saw it as being of limited use, in its current form, for promoting and protecting health.
- Most tobacco control stakeholders believed that, in having been made available to the public, the currently-disclosed information had done little, if anything, to promote and protect the health of Australians.
- The research undertaken with smokers, non-smokers and tobacco control stakeholders did not find evidence that the health of Australians will be directly promoted or protected through the provision of accurate cigarette ingredient or emissions information to the public.
- Comprehensive and enforceable disclosure was seen by tobacco control stakeholders as important and necessary to deliver future public health benefits. The majority of smokers and non-smokers also believed that disclosure should be governed by legislation and enforced by Australian Government.
- Tobacco control stakeholders saw the currently available information as being incomplete in that there has been no disclosure of the ingredients of non-cigarette tobacco products, or of brands and companies outside the current Agreement.
- Some tobacco control stakeholders argued that, if the information were to be most useful as a resource for tobacco control bodies and for researchers, it would need to include many additional details about each product.
- Tobacco control stakeholders observed that the behavioural effect of tobacco product information will need to be properly understood before that information is promoted to the public.

2

Background to the project and research objectives

RESEARCH CONTEXT AND OBJECTIVES

2.1 Background

Tobacco smoking is the largest single preventable cause of death and disease in Australia[1]. In 2003 there were 15,551 tobacco-related deaths in Australia.[2] This represents approximately 11.7% of all deaths in that year.[3] The 2007 National Drug Strategy Household Survey reports that 16.6% of Australians aged 14 or older consumed tobacco daily making tobacco the second most consumed drug in Australia. [4]

Despite the prevalence of tobacco use, tobacco products are not subject to the health and safety regulations imposed on other legal drugs or on food and beverages. While the manufacturers of food products, for example, are required to list ingredients on packaging, manufacturers of cigarettes and other tobacco products are not.

There have been important developments in tobacco regulation in recent years. The FCTC works towards the international reduction of demand, and regulation of supply, of tobacco

[1] Australian Bureau of Statistics. 2006. Tobacco Smoking in Australia: A Snapshot 2004-05. Available at: http://www.abs.gov.au/AUSSTATS/abs@.nsf/mf/4831.0.55.001?OpenDocument
[2] 15,511 tobacco related deaths published in The Burden of Disease and Injury in Australia 2003 report, Begg, Vos, et al, University of Queensland, 2007. NB. 132,300 deaths in 2003 published in ABS Demography, Australia, 2003.
[3] The Australian Bureau of Statistics reported 132,300 deaths in 2003. (Australian Bureau of Statistics. 2003. *Deaths, Australia*. Available at http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/75C79093F73EDBAACA256F6A0073518F/$File/33020_2003.pdf)
[4] http://www.aihw.gov.au/publications/phe/ndshs07-fr/ndshs07-fr-no-questionnaire.pdf

products. Australia ratified the FCTC in 2004 and the Convention entered into force on 27 February 2005. Article 9 of the FCTC calls for regulation of the contents of tobacco products. Article 10 calls for regulation of disclosure of tobacco product ingredients.[5] Australia is a partner country in the working group for the elaboration of guidelines for Articles 9 and 10 of the FCTC. The FCTC has not yet adopted guidelines on these articles and has asked this working group to continue its work.[6] A progress report was presented to the third Conference of Parties in November 2008. The working group will continue their work on these articles.

There are therefore at present no internationally accepted standards or guidelines for the ingredients allowed in tobacco products, nor for the disclosure of ingredients and emissions of tobacco products.[7] There is also a lack of standardisation and validation of emissions testing methods, particularly with regard to the use of smoking machines to test the content of emissions. [8,9,10]

Australia is therefore not unusual in having no standards or guidelines for ingredients in tobacco products. On the basis of a Voluntary Agreement reached with the Australian Government, however, three Australian tobacco companies disclose cigarette ingredient and emissions data to the public. Under the terms of the Agreement, these data are provided to the Department of Health and Ageing and published unchanged, on the Departmental website.

The ingredients included in tobacco products are substantially altered by the processes of heating and burning,[11] such that there are over 4,000 chemicals present in cigarette smoke[12], including more than 60 known carcinogens.[13]

In 2001, the three manufacturers agreed to undertake cigarette emissions testing of selected Australian cigarette brand variants on a one-off basis and to supply the results to the

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[5] World Health Organization. 2003. Framework Convention on Tobacco Control, Geneva, World Health Organization.
[6] World Health Organization. 2007. Conference of the Parties to the WHO Framework Convention on Tobacco Control: Decisions. Accessible at: http://www.who.int/gb/fctc/PDF/cop2/FCTC_COP2_DIV9-en.pdf
[7] World Health Organization. 2001. Advancing Knowledge on Regulating Tobacco Products. Geneva, World Health Organization.
[8] Chapman, Simon. 2007. Public Health Advocacy and Tobacco Control, Sydney: Blackwell Publishing.
[9] Kozlowski, L.T., O'Connor, R J. 2002. Cigarette filter ventilation is a defective design because of misleading taste, bigger puffs, and blocked vents in *Tobacco Control*, vol. 11, pp. 40-50.
[10] Final Report on the Work of ISO/TC 126/WG 9, Smoking Methods for Cigarettes, 14 March 2006.
[11] World Health Organization, (2002) *Scientific Advisory Committee on Tobacco Product Regulation (SACTob) Recommendation on Tobacco Product Ingredients and Emissions*, Geneva, World Health Organization.
[12] US Department of Health and Human Services. 1989. Reducing the Health Consequences of Smoking: 25 Years of Progress. A Report of the US Surgeon General. Rockville, Maryland: US Department of Health and Human Services, Office on Smoking and Health, Centers for Disease Control, Center for Chronic Disease Prevention and Health Promotion. Available at: http://profiles.nlm.nih.gov/NN/B/B/X/S/_/nnbbxs.pdf
[13] Gray N. 2000. Reflections on the saga of tar content: why did we measure the wrong thing? in Tobacco Control, vol. 9, no. 1, pp. 90–4.

Department within the spirit of the existing Voluntary Agreement. Two emissions testing regimens were used for the 15 brands of selected cigarettes: ISO 3308 (puff volume 35 ml; puff frequency once every 60s) and intensive regime (puff volume 55 ml; puff frequency once every 30s; all ventilation holes blocked with adhesive tape). The two methods are the same testing regimes currently proposed under Articles 9 and 10 of the FCTC. Yield data for approximately 40 smoke constituents and compounds were obtained for mainstream and sidestream smoke, including: tar, nicotine, carbon monoxide, ammonia, benzoapyrene, formaldehyde, acetaldehyde, acetone, acrolein, butyraldehyde, hydrogen cyanide, mercury, lead, cadmium, nitric oxide, phenol.

A key aim of the Agreement is to promote and protect the health of Australians, specifically by effectively informing them about cigarette ingredients and emissions. This is consistent with the National Tobacco Strategy's (NTS) objective of reducing the harms associated with the use of tobacco and nicotine, including a reduction of exposure to dangerous smoke constituents. Given this objective, 'effectively inform' can be interpreted as a requirement that information be disseminated in such a way as to be both received and comprehended.

Tobacco control advocate Simon Chapman has characterised the tobacco industry as historically reluctant to communicate health risks to smokers.[14] However, he argues that there is a risk that information disclosure will work in the interests of the industry by enabling it to claim limited or no responsibility for the negative health effects of smoking on the basis that smokers are fully informed of the risks.[15]

2.2 Research objectives

The overall research objective was to assess the effectiveness of the current disclosure of cigarette ingredient and emission data by determining the public health value of disclosing this information. This assessment included the following objectives:

- assess the perceived importance of public disclosure of cigarette ingredients and emissions;
- assess comprehension of the cigarette ingredient and emission data; and
- assess the perceived accuracy and completeness of the information.

[14] Chapman, Simon. 2007. Public Health Advocacy and Tobacco Control, Sydney: Blackwell Publishing, pg. 17.
[15] Chapman, Simon. 2007. Public Health Advocacy and Tobacco Control, Sydney: Blackwell Publishing.

This research project was undertaken to:

- assess the effectiveness of Australia's current voluntary disclosure arrangements;
- help inform future potential disclosure;
- inform elements of a Ministerial Council on Drug Strategy (MCDS) feasibility study into the formal disclosure of ingredients in tobacco products; and
- provide the Australian Government with background information in connection with Articles 9 and 10 of the World Health Organization Framework Convention on Tobacco Control (FCTC).

The research program undertaken to meet the research objectives is outlined in the following section.

3

Research design and rationale

RESEARCH DESIGN

The research involved group discussions with smokers and non-smokers, depth interviews with recent quitters, and depth interviews with tobacco control stakeholders. Fieldwork was conducted between 3 October and 4 November 2008.

3.1 Qualitative method for smokers and non-smokers

Group discussions were considered an appropriate research method for gauging smokers' and non-smokers' views about, and reactions to, the disclosed data. The group discussion environment allowed for interaction between respondents, thus extending the range and scope of the discussion, and provided an efficient way of involving relatively large numbers of participants.

Recent quitters are relatively scarce and for this reason depth interviews were conducted.

3.2 Sample structure for smokers and non-smokers

Ten mixed-gender group discussions were conducted with adult smokers, and two single-gender discussions were conducted with teenage smokers. The sample structure was weighted towards smokers because it was hypothesised that it would be on them that information about cigarette ingredients and emissions was likely to have the greatest impact.

Adult smokers were grouped according to:

- Their **age** (18-34, 35-49, 50-65). This enabled analysis of whether people's views differed according to age, and also allowed greater group cohesion and comfort.

- **Whether or not they were seriously considering quitting**. Smokers' motivational state could influence how they perceive health-related information, such as data on cigarette ingredients and emissions. Hence, separate group discussions were conducted with those seriously considering quitting in the next six months.

- Their **socioeconomic status** (SES) (low-medium or medium-high). Research indicates that smoking is more prevalent among those who are less educated, blue-collar workers and the unemployed. Organising groups in this way allowed analysis of whether comprehension or reactions to the data differed according to SES.

For younger teenagers, smoking status was determined by whether they had ever tried smoking. For older teenagers, smoking status was determined by whether they had smoked in the last week. Groups with teenage smokers were single-gender because males and females in adolescence tend to interact uneasily with each other on a social basis, and because there are gender differences in the acquisition of social skills and confidence. The sample of teenagers included some participants who were not at school because, as specified in the National Tobacco Strategy, 2004-2009, connectedness to school is an important protective factor against smoking.

One mixed-gender group discussion was conducted with adult non-smokers aged 18-24 years; two single-gender groups were conducted with teenagers who had never tried smoking; and one mixed gender group was conducted with non-smoking parents of teenagers. Non-smokers were included in order to assess whether the disclosed data play, or could play, any role in preventing smoking uptake, and to understand whether non-smokers believe that disclosure is important. The non-smoking sample was weighted towards the younger age groups because smoking uptake is most likely to occur when people are younger and it is therefore important to understand the potential effects of the cigarette ingredients and emissions data on these groups. A group discussion with non-smoking parents of teenagers was also included to understand whether the cigarette ingredients and emissions data were perceived to be particularly important for teenagers.

Eight depth interviews were conducted with recent quitters. "Recent quitters" were defined as people who had quit smoking within the last 2 years, and had not smoked for at least 30 days at the time of recruitment. This group was included to understand the actual and potential role, if any, of cigarette ingredients and emissions data in encouraging people to quit or to stay quit.

Fieldwork was conducted in Sydney, Melbourne, Adelaide, Lithgow, Ballarat, Orange, Katoomba and Geelong. Smokers in rural and remote regions were identified by the National Tobacco Strategy, 2004-2009, as a disadvantaged group that requires tailored messages and support. This made it important to have geographically diverse research locations.

3.3 Tobacco control stakeholder consultation

A list of twenty-nine tobacco control stakeholders was supplied by the Department, and these twenty-nine were invited to nominate other relevant tobacco control stakeholders to be interviewed. Thirty-three interviews were conducted with tobacco control stakeholders, including the additional nominees approved by the Department, and excluding those who declined to be interviewed. Interviews were conducted in all Australian states and territories. Australian tobacco control stakeholders were drawn from state government departments, Cancer Councils, Quit state offices, universities, and other relevant tobacco control organisations. New Zealand and Canadian tobacco control stakeholders were drawn from the national health department of each country. In addition, written input was received from the Department of Health in the United Kingdom.

Tobacco control stakeholders were approached individually and interviewed at a time and place of their choosing. A few days prior to the interview a number of documents, supplied by the Department of Health and Ageing, were emailed to interviewees: an overview of disclosure under the Voluntary Agreement; internet links to ingredients and emissions data, and to the disclosure template, on the Departmental website; and a copy of the Voluntary Agreement. The overview of disclosure under the Voluntary Agreement is included in Appendix B of this report.

Individual interviews allowed tobacco control stakeholders the freedom to talk within their area of expertise, and to discuss what they saw as the most important issues in relation to the disclosure of cigarette ingredients and emissions. The interviews were semi-structured, but tobacco control stakeholders were free to include comment on broader disclosure issues. Tobacco control stakeholders were also given the option of responding to the research topics in writing.

3.4 Conduct of the qualitative research

Recruitment of research participants

Smokers and non-smokers, and recent quitters, were recruited by Stable Research from pre-existing registers. Each group discussion with adults involved between seven and nine participants, and those with young people involved six to seven participants.

The ASMRS Code of Professional Behaviour only requires that parental consent be obtained when participants are under sixteen years of age, but parental consent was obtained for all teenage participants who were at school. Teenage participants who were not at school were over the age of 16. Parental permission was not obtained for teenage participants who were

not at school because, in our experience conducting research with teenagers, those who have left school tend to be relatively independent of their parents, and may not live with them.

Tobacco control stakeholders were recruited by Ipsos-Eureka consultants.

Stimulus materials

Examples of the ingredients and emissions data were used in group discussions with smokers and non-smokers, and in depth interviews with recent quitters. This enabled an assessment of perceptions and comprehension of the disclosed data. The examples of ingredients data were selected by the Department. Examples of the three types of disclosed ingredients information were selected such that all three manufacturers were represented amongst the examples. The examples were:

- By-brand variant list: BATA brands Benson and Hedges Smooth and Lucky Strike Silver.
    - These examples were chosen because one was relatively long and the other relatively short. This enabled assessment of whether the length of the ingredient list had an impact on perceptions of the harmfulness of a particular cigarette.
- Composite list of tobacco ingredients: PML composite list.
    - The full PML composite list was used.
- Composite list of non-tobacco ingredients: ITA cigarette paper ingredients list.
    - In order to ensure that group discussions and interviews were not inhibited by impractically large quantities of information, only the cigarette paper ingredients list was used from the ITA composite list of non-tobacco ingredients
- Emissions data: two sets of examples were used on a rotating basis.
    - PML set: Mainstream smoke: Peter Jackson Ultra Mild and Peter Jackson Extra Mild. Sidestream smoke: Peter Jackson Ultra Mild or Peter Jackson Extra Mild.
    - BATA set: Mainstream smoke: Winfield Supermild and Winfield Filter. Sidestream smoke: Winfield Supermild or Winfield Filter.
    - In each set, one example had a relatively low tar-yield and the other a relatively high-tar yield. Examples were chosen in this way in order to gauge whether participants drew conclusions, on the basis of tar yields, about the relative harmfulness of different cigarettes. Emissions data from all manufacturers is provided in a standardised format and it was therefore

considered sufficiently representative to use examples only from two manufacturers because the comprehensibility of the data from the third manufacturer was likely to be very similar to that of the others.

These examples of the disclosed data are included in Appendix B of this report.

Prior to their interview, tobacco control stakeholders were sent an overview, prepared by the Department, of the Australian Voluntary Agreement for cigarettes ingredients and emissions disclosure. This overview is included in Appendix B of this report. Tobacco control stakeholders were also supplied with links with which they could access the disclosed data on the Departmental website.

Research tools

Smokers and non-smokers who participated in group discussions were asked to complete a notepad exercise towards the beginning of the discussion. They were asked to write down all the cigarette ingredients and cigarette emissions constituents that they could think of. This tested their existing awareness of ingredients and emissions. The notepad exercise is included in Appendix B of this report.

Duration and incentives

All group discussions with smokers and non-smokers were approximately one and a half hours in duration. Depth interviews with recent quitters took between 45 minutes and one hour.

All participants in the group discussions with smokers and non-smokers, and the depth interviews with recent quitters, received a monetary incentive of $60.

Recording

All group discussions and depth interviews were audio-taped for subsequent analysis. It should be noted that, as AMSRS members, we are bound by the Society's codes pertaining to anonymity of respondents and, as AMSRO members, we subscribe to the industry's privacy principles. Recordings are securely stored at Ipsos-Eureka's offices and will be destroyed after a period of two years.

4

Findings from qualitative research among members of the public and tobacco control stakeholders

RESEARCH FINDINGS

4.1 Smokers and non-smokers

Pre-existing knowledge

Smokers and non-smokers who participated in group discussions generally thought that the meaning of "cigarette ingredients" was self-evident and easily understood. "Cigarette ingredients" was typically defined as the contents of a cigarette. Unless prompted, participants usually did not identify the filter, paper and glue as "cigarette ingredients".

Some participants mistakenly thought that cigarette ingredients were listed on cigarette packs.

> *"If you can see it written on the pack, then yes, it's included in it."*

The phrase "cigarette emissions" was unfamiliar to participants, but they were often able to infer a meaning from the use of "emissions" in other contexts; for example, "vehicle emissions" or "greenhouse gas emissions". The majority thought that "cigarette emissions" referred to what is produced when a cigarette is burned, or to the composition of cigarette smoke.

> *"In general, the elements that come out of a burning cigarette."*

Only some participants spontaneously differentiated between the smoke that is inhaled, and the smoke that comes from the end of a burning cigarette. Those who did make this distinction generally thought that "cigarette emissions" would cover both types of smoke.

A small number of participants also thought that "cigarette emissions" would include exhaled smoke.

"Maybe even the stuff you breathe it in then breathe it out, the third party smoke."

"Ingredients" and "emissions" were understood as distinct terms referring to different things.

Participants' knowledge of tobacco ingredients was poor and their knowledge of emissions constituents was even poorer. They willingly acknowledged their lack of such knowledge.

"I'm really clueless about it. I don't know."

When asked to list all the cigarette ingredients that they knew of, most listed at least two or three things. "Tobacco" was almost always included amongst these. "Nicotine" and "tar" were also commonly believed to be cigarette ingredients.

While "chemicals" were regularly identified as cigarette ingredients, specific chemical names were mentioned by few participants. Rather than specific chemicals, participants were more likely to identify chemicals qualitatively; for example, as "nasty". "Rat poison", cleaning chemicals and "paint stripper" were sometimes mentioned as both ingredients and emissions.

A small number of participants mentioned flavourings like "menthol", "liquorice" and "barley", and a similarly small number referred to non-tobacco components like "paper", "filters" and "glue".

Most participants could not easily name cigarette emissions constituents. Only a very small minority mentioned more than two or three. The emissions that were most often mentioned were "carbon monoxide", "carbon dioxide" and "CO_2". Many also referred to "chemicals", "poisons", "toxins", "harmful stuff" and, occasionally, "carcinogens". "Tar" and "nicotine" were also sometimes mentioned.

Interest in information, and expectations

Participants were never more than mildly curious about cigarette ingredients or emissions, and did not intend to seek out information. Almost none had previously sought such information, and many observed that they did not want to know any information about ingredients and emissions. Participants nevertheless strongly believed that the information should be made available, as a consumer right, for those few who might want it.

When told about the Voluntary Agreement, but before viewing examples of the disclosed data, most participants expected that the Department of Health and Ageing website would include information about the health consequences of specific ingredients and emissions. They observed that a lack of information about health consequences would make any other ingredient or emissions information seem irrelevant to them.

"It's one thing to get a list of ten ingredients, but if you don't know what they do to you, what the short term effects are or what the long term effects are, it's a bit useless."

Participants commonly assumed that the accuracy of the information appearing on the Department of Health and Ageing website would have been verified by the Department before it was posted.

A minority of participants expected that information from a government website would be biased or incomplete, given that the government has an interest in maintaining the flow of tax revenue from cigarette sales. This general view was about government as a whole, rather than with regard to the Department of health and Ageing in particular.

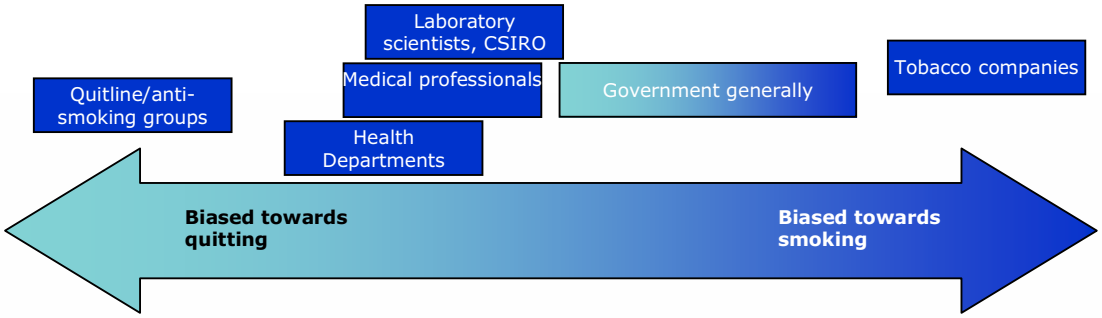
Information sources

Participants generally had little recollection of any cigarette ingredients or emissions information that they might have seen in the past. Some recalled having seen such information in television advertisements, but their memories of the details were vague at best. Others thought that some information about ingredients and/or emissions was provided on cigarette packs. In the groups with teenagers, some participants mentioned that they had seen posters at school that listed cigarettes ingredients.

Across all groups, most participants explained that, if they wanted to find out more about cigarette ingredients and emissions, they would use Google to search on the internet. They expected to find information on the websites of government departments or agencies, the Cancer Councils or similar bodies, QUIT, or tobacco companies.

Doctors were also regularly mentioned as a potential source of information and some teenagers said they might ask their school teachers or school nurse.

Many participants assumed that most or all sources would be biased to some extent and that any information provided would have been selected to reinforce a particular agenda, as indicated in the following diagram and by the quotations below.



[Regarding anti-smoking organisations]: "Their job's more to train you into stopping, not to educate you."

[Regarding government]: "It's a billion dollar industry for the government, so they're skewed somewhat."

General reactions to ingredients and emissions data

In reaction to the ingredients and emissions data, participants generally described themselves as overwhelmed by the quantity and complexity of the information. While many said that they did not find any of the information interesting, some observed that the emissions data were relevant and interesting for them.

"There's not just a possibility it contains lead, it really does. And that carries more weight [than a claim that cigarettes might *give you cancer]."*

"If you listed off most of these on the telly, I'd be sitting there thinking, "Sheesh, that's an awful lot in one cigarette." I'd pay more attention to it. I didn't know half of that stuff was in a cigarette. When we got here, we could only list off a couple."

Primarily, however, the information was seen to be irrelevant because the chemical names were unfamiliar; or because it was impossible to interpret the data in the absence of information about the health effects of each chemical at the given concentration; or because participants did not know the effects of combustion on even those ingredients with which they were familiar.

Participants perceived the information to be more relevant when they knew (or believed they knew) common uses for the listed chemicals.

"Acetone. Acetate. They're in nail polish remover, so I know that that's not a good thing."

Among the information assessed in group discussions with smokers and non-smokers, the by-brand ingredients lists and the emissions data were the types of information that participants most often identified as relevant to them personally. These were seen as relevant because smokers believed that they could use them to see what was contained in their own preferred brand variant.

The presentation of the information was usually perceived as dull and technical. Participants observed that they found the presentation neither encouraging nor inviting. This was not seen as a serious problem because they had little interest in accessing it anyway.

When asked if, on the basis of the information provided, they understood the role of the ingredients added to tobacco in cigarettes, most observed that additives were used to modify or enhance the cigarettes' flavour. Participants assumed that such additives were necessary to make different cigarettes appeal to particular smokers or age groups, including younger smokers. Other explanations, on the basis of the information provided, of the role of additives in cigarettes were that they preserved the tobacco; that they made cigarettes burn effectively; or that they make cigarettes more addictive.

Some participants were confused about whether some of the listed ingredients were additives, or whether they were already present in tobacco.

A small minority in metropolitan areas, and a larger minority in non-metropolitan areas, observed that there was a lack of information about how on-farm processes affect the tobacco, or what additives or treatment chemicals might be present in the ingredient simply listed as "tobacco".

The ingredients lists applied only to cigarettes and, as a consequence, smokers of roll-your-own tobacco sometimes interpreted the information as supporting their view that roll-your-own tobacco contains fewer ingredients and is therefore safer than cigarettes.

Smokers and non-smokers tended to interpret the data in subtly different ways, probably so as to rationalise their existing behaviour. Smokers who did not intend to quit looked for information that suggested that cigarettes were not as dangerous as they had been led to believe; or evidence in support of the idea that cigarettes were dangerous primarily because of what tobacco companies added to them, rather than because of the tobacco itself. Smokers intending to quit were more likely to be sceptical about the relative safety of the "natural" ingredients. Non-smokers and recent quitters were even more sceptical, tending to be quick to point out that, while the ingredients might be "natural", smoking them was likely to be harmful.

Reactions to by-brand ingredients data

Views differed on whether the information was easy to understand. Some appreciated the absence of confusing technical terms or unfamiliar chemical names. But the notes beneath the ingredients list, and the cross-references to other documents (for example, to the composite list of tobacco ingredients), were seen to produce a confusing complexity. The cross-references also reinforced doubts about the information's completeness.

Many thought that the cigarette ingredients should have been listed proportionally. Some disagreed, observing that tobacco companies had the right to protect their secret recipes.[16]

Participants noted that the term "processing aids" was insufficiently explained. They also sometimes noted a lack of information about ingredients added to the tobacco before it leaves the farm.

Overall, the information did not lead participants to perceive smoking as more dangerous than they had done in the past. For some, the information had no impact at all on their perception of the risks of smoking. For others, the information seemed to make some cigarettes seem less dangerous. Ingredients like cocoa and honey were seen by some—in particular, by smokers who were not thinking about quitting—to be benign on the basis of "naturalness". Some smokers not intending to quit also thought that cigarettes with relatively few ingredients would be relatively safe.

> *"It looks like the Lucky Strike Originals aren't meant to be bad. It's got honey in it and things like that, and it's all nice and furry and fluffy."*
>
> *"I think ginger oil is relatively safe."*
>
> *"It sounds like a cake rather than a killer thing."*

Non-smokers and smokers who were seriously thinking about quitting were more sceptical about the ingredients lists. They tended to perceive the shorter lists as deceptive, interpreting their brevity as evidence of omissions. And while some noted that some ingredients were "natural", they often speculated that even these ingredients were probably harmful when smoked. Participants nevertheless generally did not, having viewed the list, see smoking as more dangerous than they had thought it in the past. Nor did they report that it made them less inclined to smoke.

> *"It's not really a deterrent."*

Reactions to composite ingredients data

When unassisted, some participants appeared not to comprehend the differences between the by-brand ingredients list and the composite ingredients list. Most found the composite

[16] The global PML website lists the weight of each ingredient, and the percentage that it constitutes of the total cigarette weight (http://www.pmintl-technical-product-information.com/aspx/country.aspx?CountryName=AU, accessed 12/12/2008).

ingredients list difficult to understand. Group participants generally relied on discussions with each other to understand the relationship between the documents.

Once they understood the composite ingredients list, most participants saw it as of limited or no use, and had difficulty deriving any meaning from it. Participants were unfamiliar with many of the listed chemicals, and were unsure whether the chemicals appeared in all, most, some, or only a few cigarettes. The functions listed adjacent to each ingredient were generally seen as insufficiently explanatory; for example, very few understood the term "humectant", and were confused about why so many flavourings were listed in the composite list when the by-brand ingredients list was relatively short.

> *"More words we don't understand."*

> *"It doesn't provide anything more tangible to the common consumer who doesn't have a degree in science."*

> *"I think this one's just trying to comply with the Voluntary Agreement but provide no information, or make it difficult for you to find."*

Having read the composite ingredients list, participants usually concluded that there were far more chemicals in cigarettes than they had previously thought, but that this only reinforced their prior sense of the harmfulness of smoking.

> *"I don't know what half of them mean. I don't know if I can't pronounce them or if I've ever heard them. I know they're not a good thing, but that would be the extent I get out of it."*

Other participants concluded that cigarettes are complex products that contain many chemicals, but did not interpret that complexity as necessarily harmful.

In the absence of information about the harms derived from exposure to the particular chemicals in particular concentrations, some participants described the listed quantities as meaningless. Sometimes, the apparent smallness of the quantities was interpreted as evidence of the limited capacity of the chemicals to cause harm to the smoker.

> *"Point 00 of something isn't really going to worry you as a smoker."*

Reactions to non-tobacco ingredients data

Most group participants had previously given little, if any, thought to the composition of non-tobacco ingredients, or to the effects of smoking non-tobacco ingredients like paper. Burning paper was usually not considered as a source of particular hazard. Some, however, were aware of the additives in the paper of machine rolled cigarettes, and consequently favoured

roll-your-own papers as a more "natural" and less harmful alternative. The filter was regularly assumed to have a positive health impact.

Some were surprised by the number of chemicals in tobacco paper, but in general this information had little perceivable impact on participants.

Reactions to emissions data

The cigarette emissions data were seen by many participants as more relevant and informative than the ingredients data.

> *"It's what you're actually inhaling or exhaling as well, once you've lit it and you're actually smoking it. Who cares what the leaf is, or the paper or anything? But it's actually the smoke or the emissions. That's probably what is the most concerning thing."*

But the emissions data were also seen as being difficult to understand. Many thought that they would require greater knowledge of statistics and/or chemistry to properly understand the data.

Participants perceived many of the reported chemicals as harmful, and some were surprised by the number of chemicals present in cigarette emissions. For some, this seemed to reinforce their prior sense of the harmfulness of smoking. This perception of harm was regularly weakened, however, because participants were unable to assess whether the reported quantities of each chemical represented a harmful amount.

Many were unfamiliar with the differences between nano-, micro- and milligrams. Participants had difficulty in interpreting the reported quantities because they had difficulty conceiving of the size of, for example, a microgram.

Participants did not always notice that the results of two different testing methods "standard" and "intensive" were reported. When this difference was pointed out to them, many were confused about the differences between methods; for example, they were unsure about the rationale for blocking ventilation holes in the intensive method. Most were confused about the meanings of "mainstream" and "sidestream".

Only rarely did participants notice, unprompted, the differences between the yields of different products and from different testing methods. Some did compare emissions across brands, and assumed that those with lower yields were slightly less harmful. A small number also noted that the yields from certain chemicals were lower in the mainstream smoke than in the sidestream and some of these participants thought that mainstream smoke might therefore be safer than sidestream.

Many participants noted that the emissions information was out of date.

Some commented that the emissions data did not tally with their sense that smokers do not all smoke in the same way. For these participants, the accuracy and relevance of the data seemed questionable.

> *"Everyone breathes their cigarette differently. My parents smoke, and they really suck on it. They're probably doubling the chemicals I'm taking in."*

Impact of ingredients and emissions data

The research with smokers and non-smokers suggests that the ingredients and emissions data are unlikely to have any impact on attitudes or behaviour of smokers or non-smokers. Group participants had little curiosity about the information and would not seek it out. When they were given examples of the information they found it difficult to understand. And when they did come to understand the disclosed information, they saw it as being of limited relevance to them because health impact of each ingredient and each emission constituent was not explained.

> *"We want to know what's in a cigarette and what does it do to you."*

Almost all participants already believed cigarettes to be harmful and so the disclosed information had little impact on their perception of harm.

> *"If I rang Quitline or went to see them and they said, 'Will this make you give up smokes?' [I would say,] 'No'."*

> *"What's the point of putting these on the website? They're not going to affect me in any way unless I know what the chemicals in each of them do. I couldn't care less."*

> *"I just don't think it's going to make any difference. Even if they had all this information, they're still going to smoke. Unless they really want to give up."*

Only a small number felt that the information was likely to have an impact on their behaviour, and these participants tended to be recent quitters, or smokers intending to quit.

> *"I think it does open the mind. We all knew it has cyanide, but the more you hear it, the more you're going to think, "Gee". We know we're killing ourselves but maybe we'll stop and wait another hour for that next smoke. And feel guilty."*

The composite ingredients list led most participants to conclude little more than that many chemicals are added to at least some cigarettes.

The by-brand ingredients data most commonly had a neutral impact on participants' perception of the harms of smoking. A minority of participants interpreted that cigarettes with fewer, or more familiar, ingredients were less harmful than others.

Access to information

No participant had been aware that the disclosed ingredients and emissions information was available on the Department website. Participants expressed little inclination to access the disclosed information in the future.

Although participants were disinclined to access the disclosed information, and believed that others would be similarly disinclined, they generally believed that such access was their right as consumers. Many felt that the obligations of tobacco companies should be no different from other industries, like food and beverage manufacturing, in which extensive disclosure is required. Almost all believed that the tobacco industry should be required by law to provide information on ingredients and emissions. Some thought that the government should verify the information, or conduct independent testing.

Most participants saw it as a responsibility of government to make ingredients and emissions information available to those members of the public who might want to see it; to scientists and health professionals; and to the regulators whom some assumed must approve the sale of the products.

A small number concluded that the location of the information on the Department website indicated that the government had verified the accuracy of the data. Some also saw it as an indication that the government had approved the sale of the products after analysing the information.

Most participants saw the internet as an appropriate and adequate way of providing the information. Some also thought that it would be appropriate for the government to publicise and disseminate the information through more active communication strategies, including through television advertising or cigarette packs. Participants who advocated for such strategies did so on the assumption that the information would be made more relevant—for example, by describing the health effects of particular chemicals or the relatively high toxicity of passive smoking—and translated into a more comprehensible format before dissemination.

4.2 Tobacco control stakeholders

Use of disclosed data

Many had not used the disclosed ingredients and emissions information in their tobacco control work. Some who had not used it professionally had nevertheless accessed the information out of curiosity. Others had never previously accessed the information at all and a small number had not known of its existence.

Those tobacco control stakeholders who had accessed the information other than out of personal curiosity had done so to learn more about ingredients and/or emissions, with a view to informing:

- their work regarding the regulation of tobacco products;
- policy regarding the use of flavours, palatability aids and menthol (freshness enhancer) in cigarettes;
- policy and communications regarding "light" or "mild" cigarettes; or
- their understanding of how particular cigarettes might be smoked to achieve a given dose of nicotine.

The product weight information had also been used to help identify any alteration in product specifications following a cigarette excise adjustment.

Accuracy and comprehensiveness of disclosed data

Many tobacco control stakeholders believed or suspected that the disclosed ingredients lists were incomplete and/or inaccurate. Some tobacco control stakeholders noted that internal tobacco industry documents indicated the use of ingredients that did not appear on the lists.

> *"Because I have specialized knowledge of internal tobacco industry documents, I know many of the things which have been revealed within the documents, which are not listed there."*

The lack of a definition or full disclosure of "processing aids" was seen as indicating that ingredients might have been omitted from the lists.[17]

> *"I suspect that they bury the things that they do not wish to release within the term 'processing aids'."*

The unenforceability of the Voluntary Agreement also led tobacco control stakeholders to believe that the information may not include proprietary flavourings and certain chemicals.

> *"It's just what they've chosen to tell us. Because it's voluntary."*

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[17] While the Voluntary Agreement does not require disclosure of the processing aid, the Australian product information on the global Imperial Tobacco website includes the processing aid used in each product (http://www.imperial-tobacco.com/index.asp?page=136, accessed 12/12/2008).

"I know in the Agreement, the Minister or the Department can ask further questions, but if you had regulatory powers to ask further questions, I would be more comfortable about the accuracy of the data."

Tobacco control stakeholders were also unwilling to trust the accuracy of the information (particularly the ingredients data) because of what they saw as the tobacco industry's previously deceptive conduct.

Some tobacco control stakeholders suggested that the ingredients information should, like the emissions information, include details of the sample size and range, to account for variation between different cigarettes of the same brand variant.

Emissions data were seen to be out-of-date, and only available for a small number of brands.

Many tobacco control stakeholders thought the emissions data lacked validity in not accurately accounting for what is inhaled by a smoker. They pointed out that smokers are known to adjust their puff intensity, volume and frequency to titrate their nicotine dose and that, therefore, there cannot be a single testing method that accounts for all smokers' behaviour.

Some tobacco control stakeholders also observed that pharmacological, toxicological and behavioural information for each emitted chemical was not provided, but they acknowledged that in many cases this information could not be provided because it was still unknown. This was seen to limit the usefulness of the data to being only a starting point for further investigation.

Most tobacco control stakeholders rejected the idea that commercial confidentiality justified the tobacco companies in withholding ingredient information.

"I would think that there may well be a case for them to say that we wish to withhold the precise ratios of ingredients because we don't want our competitors to replicate the formula, but I don't think there is a case for simply withholding it."

Commercial considerations that might apply to foodstuffs were also seen by tobacco control stakeholders to be inapplicable in the case of a product, like tobacco, known to kill a high proportion of its consumers when used as directed.

The disclosed ingredients data were seen by tobacco control stakeholders to lack important details, including:

- the proportions of ingredients in each brand;
- cultivation and hybridisation information about the tobacco used, and the consequent properties of the tobacco;

- the tobacco treatment or drying techniques; and
- information about the cigarette's engineering.

As an indication of the importance of these additional details, some tobacco control stakeholders observed that the engineering of a cigarette can induce a smoker to moderate his or her behaviour in a way that may affect the harm derived from that cigarette. For example, the addition of ventilation holes to a cigarette may induce a smoker to increase the frequency, volume or intensity of puffs to achieve the desired dose of nicotine, thereby consuming an increased volume of harmful emissions constituents. These stakeholders therefore argued that engineering data should be disclosed so that health authorities and researchers can better understand how particular cigarettes harm their consumers.

> *"If we're going to do anything about regulating to reduce the toxicity of tobacco products, we need to understand their engineering, which is ignored in this document. So basic engineering features, like the amount of filter ventilation, the filtration efficiency of the filter, the porosity of the paper, the kinds of tobacco that are in the product – all those things are ignored and they are absolutely essential."*

Some tobacco control stakeholders wanted emissions testing methods that accounted for behavioural variation by systematically varying puff intensity, volume and frequency. These additional details were seen to be necessary to inform decisions about product regulation.[18]

Comprehensibility of disclosed data

Tobacco control stakeholders saw the ingredients data as difficult to interpret, both because of their doubts about the lists' accuracy, and because they saw the explanations of the functions of ingredients as simplistic or unreliable.

> *"If the functions were explained in the way that actually communicated something. I've got no idea what the functions are, from reading that list."*

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[18] Ron Borland, co-director of the VicHealth Centre for Tobacco Control, was amongst the tobacco control stakeholders interviewed in this project. After the interview, Borland made available his 2005 letter to then-Minister for Health and Ageing, The Hon Tony Abbot MP. An appendix to the letter sets out in detail the information that, in Borland's view, should be made available for each tobacco product brand variant on the market. The letter is included in Appendix A of this report.

"It doesn't explain to the consumer why the additives are there. So for example, why are they putting sugar in the formula? What is a humectant? I mean, I know what it is, but the average punter doesn't know what it is."

Tobacco control stakeholders thought that the emissions data conveyed some meaning to experts, at least in terms of the chemicals emitted. However, only a few tobacco control stakeholders saw themselves as having the expertise necessary to fully interpret the ingredients and emissions data.

Some tobacco control stakeholders preferred not to comment on the extent to which consumers could understand disclosed information

"Well, I think that's an empirical question."

However most predicted that consumers would have difficulty understanding the ingredients and emissions data.

"I think it's useless to smokers. It's presented in a form that defies every public health communication principle, or any marketing principle established. So it's presented in a way which I would say is designed to help people not understand it."

Potential value of ingredients and emissions disclosure

Disclosure was seen as important for informing a range of tobacco-control efforts of government and the public health community. Many tobacco control stakeholders described disclosure as strategically valuable, in that it was a step along the path toward regulation of tobacco product ingredients and/or emissions. It was also seen to be useful for informing communications with smokers and non-smokers (for example, about the risks of smoking and passive smoking). Other potential uses identified by tobacco control stakeholders included assisting in understanding the relation between how cigarettes are taxed and the product specifications, and in responding to queries from the public (for example, via telephone hotlines) about ingredients and/or emissions.

Tobacco control stakeholders thought that historical data would be of potential value to government and public health community, so that any changes in the composition of tobacco products could be monitored over time.

"People could compare whether they're bringing substances down in the product or not. I think more from a research point of view, it would be interesting."

Some saw historical data as being of value to government and the public health community to monitor changes in the composition of tobacco products.

Most tobacco control stakeholders saw access to ingredients and emissions data as a basic consumer right, notwithstanding their concerns about how the information might be interpreted. The therefore thought that the most accurate information available should be accessible to those who want it, on principle.

> *"If people are putting things in the market place and inviting people to consume them and pay money for them, then I believe that consumers are entitled to get comprehensive and comprehensible information about those products as part of the contract between supplier and consumer."*

> *"I think it's just a consumer right basically, to have accurate information to what is in the product that they're smoking and what they get from it when they ingest it in the way that it's designed to be ingested."*

Some tobacco control stakeholders also thought that consumers should also be able to access a succinct, meaningful interpretation of the information, rather than just the information itself.

> *"If anyone does want to look into it, bore down into it and see what information has been collected, I think they should be able to, but I don't think we know enough yet to know, to select what it is that should be pulled out and highlighted to the public."*

> *"I think what should be given to consumers is the interpretation of it, and that should form the key messages for a mass media campaign."*

Some tobacco control stakeholders believed that emissions data were of greater relevance for consumers than the ingredients data, because the emissions are consumed by the smoker.

> *"It's sort of what a smoker gets after it's smoked, so I think the ingredients are less relevant than the emissions."*

However, disclosure of ingredients and emissions data to the public in its current form was seen as having no *direct* public health value. Some tobacco control stakeholders anticipated that the information would be largely meaningless to consumers, and potentially misleading.

> *"My understanding of what this was about was to communicate to smokers about the harmfulness [of smoking], and I don't believe it's done that. I believe that it's been an abject failure."*

> *"Even if we said we're going to wave a magic wand, and all of a sudden this information is going to be very accurate. Full disclosure, including the impact of each one of these additives and each ingredient … well, we need that to pursue the whole regulation of contents and additives, but in terms of meaningful information for smokers, I don't think it's going to help them."*

Some saw the emissions data as imprecise because smokers vary their puff intensity, volume and frequency. On this basis, and because the harmfulness of the measured amounts is not stated, they argued that consumers should be told only the chemicals that are present in emissions, but not the quantities of those chemicals.

> *"If a smoker was of the view that this information is a reliable guide to what emissions they might actually inhale, they're very wrong. So why disclose numbers that don't mean anything? It just seems a bit … it's misleading."*

Some tobacco control stakeholders were concerned that by-brand ingredients data could lessen the perceived risks of smoking or lead some consumers to conclude that some cigarettes are safer than others.

> *"I think that it's very likely that people, smokers in particular, will feel reassured by this information. That's what I would predict. That some of these substances aren't so bad after all. And the quantity is so incredibly miniscule that, 'How could they be harmful?'"*

> *"That might give an impression of a 'natural product'. But the issue is what happens when those substances might be incredibly toxic when they're burned in combination with others."*

> *"People might think, 'I'm being exposed to talcum powder, a bit of cellulose' and so forth. But they're smoking it, so it's not really what they're exposed to and it needs to be explained."*

Location of information

Tobacco control stakeholders noted that the disclosed information was very difficult to find on the Departmental website.

> *"One minute, it's under the National Tobacco Campaign, and the next it's on this list of research projects, and then the next minute it's nowhere."*

> *"It's disclosure but it's making disclosure bloody difficult for people."*

Although many did not believe that there was sufficient evidence to warrant promoting the information to the public, some thought that the information should be more accessible to tobacco control stakeholders or others with an interest in finding it.

Some tobacco control stakeholders argued that, because they believed the information to be incomprehensible and inaccurate, it would be preferable to remove it from the website and make it available on request to public health workers. Others thought that it was so unlikely to be accessed by the public that there was no harm in having it available. No tobacco control

stakeholders suggested that, in its current form, the information should be promoted to the public.

> *"There's no point in giving out information that the public will not know what to do with, and worse that could be misleading."*

> *"I think an absolutely fundamental distinction needs to be made between public disclosure and promotion of the information to consumers. We are strongly in favour of disclosure, but at this point there's virtually nothing that would be useful to promote to the general smoking public to help them make better decisions."*

Few appeared to have given much thought to the ideal location of the information. Providing some information on the internet was agreed to be a necessary minimum. Most thought that having it on the Departmental website was appropriate. Some suggested the disclosed data should be published alongside links to other relevant sites (for example, Quit sites). Others thought that the information should be included on tobacco company websites.[19]

> *"I think they should be made to put it on their websites."*

Tobacco control stakeholders observed that, if one's objective was to make the data more accessible, it would be possible to present the information online in a creative and less static way. It was also suggested that a simple URL could be provided on cigarette packs, if and when accurate and comprehensible information became available online.

> *"I don't support the idea of choking up the very sacred space on the box with long lists of ingredients like that. But I do support the idea of having a succinct website, which is carefully designed to be comprehensible to consumers of low education level."*

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[19] BATA, ITA and PML all provide some cigarette product information on their Australian or global websites (accessed December 12 2008). The BATA website provides access to the same documents disclosed, under the Voluntary Agreement, on the Department of Health and Ageing website: the By brand variant ingredients list, the Composite list of tobacco ingredients and the Composite list of non-tobacco ingredients (http://www.bata.com.au/oneweb/sites/BAT_53RF5W.nsf/vwPagesWebLive/DO52AMK5/$FILE/medMD76S6W3.pdf?openelement, accessed 12/12/2008).

The global Imperial Tobacco website provides ingredient information for cigarettes manufactured for the Australian market (as well as those for other national markets). The information is presented in a similar format to the Voluntary Agreement's By-brand variant ingredients list, but also specifies the processing aid used in each product (http://www.imperial-tobacco.com/index.asp?page=136, accessed 12/12/2008).

The Australian section of the global PML website provides ingredient and non-tobacco component lists, by brand variant. In addition to the information disclosed under the Voluntary Agreement, each list includes the weight of each ingredient, and the percentage that it constitutes of the total cigarette weight (http://www.pmintl-technical-product-information.com/aspx/country.aspx?CountryName=AU, accessed 12/12/2008). Non-tobacco components in the list are hyper-linked to ingredients lists for these components.

Others suggested that the information should not be publicised until the public health benefit of making it available had been determined.

Responsibility for disclosure

Tobacco control stakeholders universally held the Australian Government responsible for managing and enforcing disclosure. They believed that tobacco companies should bear the cost, if any, associated with disclosure.

Some observed that the tobacco companies had vast amounts of data on hand already (for example, data assembled as part of quality control processes) and that all this information should be sought by government.

Many thought emissions data should be collected through tests conducted independently and not by the tobacco companies. International tobacco control stakeholders with experience in the area suggested that in-house testing conducted by tobacco companies would be acceptable, so long as the testing laboratories were accredited and used standardised testing.

Mandatory vs. voluntary disclosure

All tobacco control stakeholders viewed the current Voluntary Agreement as unsatisfactory. The perceived disadvantages of the Agreement included:

- the impossibility of enforcing the requirements of the Agreement, and of imposing sanctions for failure to comply;
- the lack of comprehensive and up-to-date emissions data;
- that the disclosed data were limited to what the industry was willing to provide (for example, composite lists in place of full disclosure by brand variant);
- the lack of information from companies outside the Agreement and on products other than cigarettes;
- the lack of scope for the government to require disclosure of additional relevant information; and
- that it allowed the industry to claim openness and cooperativeness.

"I think currently the tobacco industry is able to say, we disclose information to the government. And they can also say, we disclose to consumers. Both of those statements are correct … I think that it gives the industry certain corporate responsibility benefits."

All tobacco control stakeholders believed that tobacco companies should be required by law to disclose ingredients and emissions data and such other information (for example, cigarette engineering information, or information about the various types of tobacco leaf used) as may from time to time be required.

> *"I find it unconscionable that they are allowed to do what they currently do, and they continue to get away with it, and they continue to be exempt from any meaningful regulatory system."*

Several commented that such legal requirements were typical for other industries.

> *"The food industry has to tell, the drug industry has to tell, the beverage industry has to tell, but the tobacco industry doesn't have to tell."*

The key perceived advantages of compulsory disclosure included that:

- the government could ask for all information currently held by tobacco companies, and any additional information that it required;
- the government could take legal action and impose sanctions for non-compliance; and
- it would neutralise any public relations benefit that the industry might derive from voluntarily disclosing information.

Tobacco control stakeholders saw it as crucial that the government have the ability to review or modify any disclosure regime when necessary. They observed that it would therefore be necessary either to have disclosure underpinned by openly-worded regulation, or for the regulation to allow the Minister or other officials to determine further enforceable requirements.

Some tobacco control stakeholders were concerned that "voluntary agreement" was confusing in the international context.

> *"When we discuss this internationally, a lot of people are quite confused about what 'Voluntary Agreement' means. I don't think it's a helpful term. It should really be called a non-enforceable agreement."*

Future management of disclosure

Only a few tobacco control stakeholders had given detailed consideration to the best way to manage tobacco product disclosure in the future. International tobacco control stakeholders stressed that it was important for regulators to know what they wanted and the format in which they wanted it. However, they also observed that, in their experience, it was difficult to decide what was wanted and the format in which it was needed until they had reviewed all the

available data. They therefore advised that all available data be requested initially—from production capacity through to manufacturing and sales—for all forms of tobacco, including loose leaf, and all brands.

Many suggested that more detailed ingredients and emissions data should be first disclosed to the government and public health community, and that the government should then decide whether and how the information should be communicated to the public.

> *"[Under articles 9 and 10 we are] considering what sort of information should be collected, and we haven't yet got a scientific consensus about how to test cigarettes … so it's [premature] to be thinking about what the public should know."*

> *"I'm much more interested in government in the first instance getting the information and working out what to do with it, and whether it should be disclosed and if so, how it should be disclosed, and is there anything that we can learn, to help us make decisions about how the product can be regulated. I think focusing too much on public disclosure is missing an important part of the problem here."*

Tobacco control stakeholders acknowledged that information disclosed to government might become subject to a freedom-of-information request.

> *"So I think any regulator has to face up to the issue that anything that they test and collect information on could easily get into the public domain."*

Some suggested that disclosure should be managed by a dedicated tobacco control body, and that it might be at arm's length from government. They also recommended additional official discretion to request further information, for example, that the Australian Competition and Consumer Commission (ACCC), the Secretary of the Department of Health and Ageing, or the chair of an expert advisory panel be able to make binding determinations concerning disclosure.

> *"I think we need some kind of expert body that's advising the government what kind of information should be collected. It's linked into the international expertise, and it can advise the government on the data collection methods and the testing methods, and how often and what sampling techniques, and all that kind of stuff. And that body could also be responsible for the design of the disclosure system."*

Tobacco control stakeholders thought that resources should be dedicated to the management of disclosure. Some advised that tobacco companies might respond to new disclosure requirements by providing a vast and excessive quantity of information. Only by being sufficiently resourced could the tobacco control body analyse the all data, to ensure that the

right information, in the right form, was being provided, and to identify what additional information was needed.

> *"You would need some reasonable infrastructure so there were people looking at the data, you could understand it, you could go back to the industry and ask questions."*

Some noted the risk that a fuller disclosure regime may create a situation in which tobacco companies, by appealing to the information, would claim that some cigarettes are relatively safe. However, this was not seen as a reason to limit disclosure.

> *"Some companies in the United States are already advertising, or have been for quite some time, 'no additives', 'natural'. But that could be easily remedied through comprehensive legislation surrounding ingredient disclosure, I think. It's not enough reason not to do it."*

> *"Now we have all these products that claim to be low fat or 99% fat free, so customers are like, 'Oh well, that product must be better for me'. I wouldn't want the same thing to happen in tobacco control, where you get an 'additive free cigarette' or, 'these cigarettes no longer have additives in them' or 'they're organic' and so consumers would think, 'that must be a better product for me'."*

A few tobacco control stakeholders held the view that mandatory disclosure ought not to be unnecessarily onerous on the tobacco industry.

Tobacco stakeholders familiar with the implementation of new disclosure requirements in other countries observed that the tobacco companies had complained about the cost of meeting additional requirements, but that ultimately the costs to the companies were limited because they already had much of the required data at hand. These tobacco control stakeholders advised that moves towards regulation should begin with an ambitious set of demands, and that regulators should resist the tobacco industry's inevitable protestations.

International tobacco control stakeholders advised that tobacco companies should be required to disclose the information in digital format. Their experience was that costs and delays had been imposed where data had been disclosed in hard-copy, because of the large quantity of paper and the sometimes-poor quality of the photocopying.

5

Summary of research findings in relation to Agreement; tobacco control stakeholders' recommendations; and recommendations based on research findings

CONCLUSION AND RECOMMENDATIONS

5.1 Findings in relation to preamble of Voluntary Agreement

> *"A. It is important that consumers have information concerning the ingredients of tobacco products."*

The research indicates that there is widespread and strong support among tobacco control stakeholders and members of public for the idea that it is important for consumers to have access to information concerning the ingredients of tobacco products. Research participants saw access to that information, and to emissions information, as a consumer right.

Group discussions with smokers and non-smokers and depth interviews with recent quitters indicated, however, that most members of the public have not and do not intend to access the disclosed information. Participants either had no particular interest in understanding cigarette ingredients or emissions; or did not see the information as an important resource for aiding smoking cessation or avoidance; or had no desire to seek out information that might be at odds with their decision to smoke.

Most smokers, non-smokers and tobacco control stakeholders thought that, while the disclosed information might help reinforce a decision not to smoke, other factors were far more influential on behaviour. While the research did not test for any behavioural changes made after smokers and non-smokers viewed the disclosed information, examples of the disclosed information did not perceivably increase their sense of the harmfulness of smoking, and some smokers were reassured by the perceived "naturalness" of some ingredients. This suggests

that providing members of the public with the currently-disclosed tobacco product information is not an effective anti-smoking strategy.

Tobacco control stakeholders generally did not believe that an important public health benefit could be derived from providing the currently available information to consumers. A minority had used the information to inform policy development and communications with smokers, or for understanding how smokers achieve nicotine doses, but generally they saw the data's current form as limiting its usefulness for these purposes. Tobacco control stakeholders primarily saw disclosure under the Voluntary Agreement as important only insofar as it was a first step towards better disclosure in the future, and eventual tobacco product regulation.

Many tobacco control stakeholders, smokers, and non-smokers, perceived the ingredients lists to be inaccurate and/or incomplete. In the case of the smokers and non-smokers, this perception related to their belief that all information about tobacco was biased to some extent—either to misrepresent smoking as safe, or to encourage people to stop smoking. Some suspected the by-brand variant ingredient lists were incomplete because they seemed too short and innocuous. Tobacco control stakeholders tended to doubt the accuracy and completeness of the disclosed ingredients lists for a range of reasons: either because the lists did not include ingredients that the tobacco control stakeholders believed, from other sources, to be used in Australian cigarette manufacturing; because the "processing aids" were not specified; or on the basis of a general distrust of tobacco companies.

Members of the public saw the emissions information as more "scientific" than the ingredients information and less open to manipulation or deception, not least because it listed so many seemingly-harmful compounds. Tobacco control stakeholders were more sceptical about the emissions information, either because of their distrust of the tobacco companies, as mentioned above, or more commonly, due to concerns about the validity of the testing method in the light of the variations between different smokers' puff intensity, frequency and volume.

Some tobacco control stakeholders noted that part A of the preamble has only partially been met because there has been no disclosure of the ingredients of non-cigarette tobacco products or from brands and companies that fall outside the current Agreement. These tobacco control stakeholders saw disclosure for such products as no less important than for those products covered by the Agreement.

> *"B. Information on ingredients should be made available in a way that effectively informs the public."*

The evidence from the discussions with smokers and non smokers, and the interviews with recent quitters, suggests that part B of the preamble is not being met by the current disclosure. Participants were not "effectively informed" in that they had difficulty comprehending the

information when it was presented to them. Most were ultimately left confused about what was in cigarettes and whether the information that they had seen was comprehensive and accurate.

Participants were generally able to comprehend that the by-brand variant list showed the ingredients in a cigarette, that the composite list showed all the ingredients that might appear in a cigarette, and that the cigarette paper ingredients list showed the contents of the cigarette paper. They mostly had a sense that the emissions data showed what was inhaled when a cigarette was smoked. However, they were confused about many other details: whether some ingredients were more or less harmful than others; why contents they knew to be in cigarettes, like nicotine, were not listed as ingredients; how the by-brand variant list related to the composite list of tobacco ingredients; the unfamiliar chemicals; the effects of combusting familiar ingredients; the units in which quantities were stated and whether those concentrations were dangerous; the functions listed in the composite list of tobacco ingredients and why that list was so long; the technical and statistical details of the emissions data, including the difference between "sidestream" and "mainstream"; the small print and qualifications; the lack of explanation of harms; and the sheer volume of information in the various lists.

The research with smokers and non-smokers also indicated that few members of the public were aware of, or had accessed, the information, and in this sense as well the public has not been "effectively informed".

Overwhelmingly, the information that smokers and non-smokers wanted—and which was not provided—was a description of the health effects and function of each ingredient, and of each chemical in the emissions lists.

Other than on the basis of the consumer's right to know, most tobacco control stakeholders saw no good reason to "effectively inform" the public about the ingredients in tobacco products, citing a lack of evidence that such information would discourage smoking.

> *"C. Information on ingredients should be made available in a way that protects the confidentiality of tobacco manufacturers' trade secrets, and which does not impose unreasonable burdens on tobacco manufacturers with respect to the time, cost and effort required to compile and disclose the information."*

With regard to the first clause of part C of the preamble, a number of tobacco control stakeholders argued that the tobacco manufacturers' right to commercial confidentiality should be regarded as invalid on the basis that their products are known to cause the deaths of a large

proportion of their consumers when used as directed. [20] With regard to the second clause, international tobacco control stakeholders with experience in the area observed that requiring tobacco companies to compile and disclose large volumes of information would not place an unreasonable burden on those companies because they usually had such information already at hand.

5.2 Findings in relation to objective of Voluntary Agreement

> *"The object of this Agreement is to promote and protect the health of Australians by facilitating the provision of accurate information to the public about the ingredients of cigarettes."*

The evidence from the research undertaken with smokers, non-smokers and tobacco control stakeholders indicates that this objective is not being met, and nor is it being seen to be met, by disclosure under the current Agreement.

The objective is not being seen to be met in that most smokers, non-smokers and tobacco control stakeholders were unsure or sceptical about the accuracy of the disclosed information.

Irrespective of its accuracy, smokers, non-smokers and tobacco control stakeholders had difficulty comprehending the disclosed information. The objective of the Voluntary Agreement states that information about the ingredients of cigarettes should be "accurate" but it does not state that the information should be "comprehensible" by members of the public. If, however, such comprehension is a necessary basis for disclosure to promote and protect the health of Australians, then the information that is currently provided, and the format in which it is provided, do not support the objective of the Voluntary Agreement.

In group discussions with smokers and non-smokers, and depth interviews with recent quitters, the disclosed information did not lead participants to perceive smoking as being more dangerous than they had previously thought. Smokers and non-smokers believed that the information should be provided but were disinclined to access it, and generally saw it as being of limited use as a resource for assisting smoking cessation or for avoiding taking up smoking.

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[20] Note that at least two of the Australian cigarette manufacturers already disclose, through their company websites, information in excess of that required under the Voluntary Agreement. ITA discloses the processing aid used in each product (http://www.imperial-tobacco.com/index.asp?page=136, accessed 12/12/2008). PML discloses the weight of each cigarette ingredient, and its proportion of the total cigarette weight (http://www.pmintl-technical-product-information.com/aspx/country.aspx?CountryName=AU, accessed 12/12/2008).

Most tobacco control stakeholders believed that the cigarette ingredient information currently made available to the public made little direct contribution to promoting and protecting the health of Australians. While tobacco control stakeholders expressed concerns about the accuracy and comprehensibility of the information, none were of the view that providing the public with accurate and comprehensible information would inevitably make a direct and substantial contribution to promoting and protecting the health of Australians. Many tobacco control stakeholders argued that more research was required to understand how best to derive a public health benefit from tobacco product disclosure.

It was the view of the majority of smokers, non-smokers and tobacco control stakeholders that the public disclosure of cigarette ingredients and emissions data should be governed by legislation and be enforced by the Australian Government, rather than being organised under a voluntary agreement. This was seen as an important step to ensure the accuracy, comprehensiveness and comprehensibility of the data, and to create the framework for disclosure of product and manufacturing information beyond that disclosed under the current Agreement.

While tobacco control stakeholders mostly thought that disclosure of cigarette ingredients and emissions information was important, they were even more likely to see it as important that the disclosure be improved from its current form. While the Voluntary Agreement has the stated objective of promoting and protecting the health of Australians, most tobacco control stakeholders saw it as impossible for this objective to be met under the current disclosure regime. Most saw it as important to establish a new disclosure regime that could meet the objective of producing a public health benefit.

Tobacco control stakeholders saw it as important for the Australian Government to pursue fuller disclosure for a number of reasons: to ensure that there are no omissions from the disclosed data; to ensure that tobacco companies do not derive public relations benefits from being seen to disclose data voluntarily; to compile an accurate historical record of ingredients used in tobacco products; and to inform the future regulation of tobacco ingredients.

5.3 Tobacco control stakeholders' recommendations for future disclosure

- Comprehensive disclosure should be legislated and enforced.
    - Disclosed information should include, at minimum, ingredients, emissions and product design/engineering features for all tobacco products, but would ideally include all other product and manufacturing information currently held by tobacco companies.

- Legislation should include scope to demand further disclosure when a need is identified in the future, and to expand or limit both the extent and form of disclosure.

- Future disclosure should be initially directed towards ensuring that the Government has all possible information about the ingredients, engineering, manufacturing processes and emissions of tobacco products. Only once the Government has received and reviewed that information should it determine what should be subsequently be disclosed, and to whom it should be disclosed.

- A dedicated committee or expert body should be assigned the task of managing disclosure and recommending any changes to the disclosure regime.

- Testing procedures should be either independent, or at least accredited.

- While respecting consumers' right to know the best available information, appropriate research should be undertaken before determining the final format and extent of disclosure to the public.

5.4 Researchers' recommendations

The following recommendations are made on the basis of the research findings.

- The research undertaken indicates that it is not yet clear how disclosure will assist in promoting and protecting the health of Australians. The Government should conduct further research to determine whether and, if so, how disclosure could produce a public health benefit, and what form future disclosure should therefore take.

    - This research will be facilitated by disclosure of all tobacco product information held by the manufacturers of tobacco products sold in Australia. The Government should therefore seek disclosure of all information about, but not necessarily limited to, the ingredients of tobacco products; cigarette engineering specifications; tobacco growing and processing techniques; tobacco product manufacturing processes; tobacco product emissions data; and the interactions between product specifications, product emissions and smoker behaviour.

    - Current disclosure arrangements should be maintained while this research is undertaken.

- Moves towards new disclosure arrangements in the future should consider that there are three types of disclosure.

    - Disclosure by tobacco companies to the Australian Government. Extensive disclosure of this kind will facilitate research into the effects of publicly distributing tobacco product information, and into the best way to derive public health benefit through disclosure. It will also assist in the possible regulation of tobacco products, and in research to inform that regulation.

    - Disclosure to tobacco control bodies and to researchers, of the information provided by tobacco companies. In consultation with tobacco control bodies and researchers, the Australian Government should seek to determine what kind of tobacco product information is most useful for work to promote and protect the health of Australians.

    - Disclosure by tobacco companies, either via the Australian Government or in a form prescribed the Australian Government, to the public. It should be noted that in disclosing tobacco product information to the public, there are two objectives to be considered:

        - to satisfy consumers' widely perceived right to know the contents of the product that they are consuming (which in the case of tobacco products would include emissions); and

        - to derive a public health benefit through making the information available to the public. It should be noted that it is at present unclear whether and how disclosure of some or all tobacco product information to the public can meet this objective, and research into this matter is recommended.

      It should be noted that these two objectives for disclosure to the public are not necessarily compatible. It is possible that information disclosed to satisfy consumers' rights will have a negative public health value in that it may lead those who read it to conclude that smoking is less dangerous than they had previously thought. Deriving the greatest public health benefit from future disclosure arrangements may, therefore, require not promoting the disclosed information to the public until the behavioural effects of this information are researched and understood.

A

APPENDIX A: SUPPLEMENTARY MATERIALS PROVIDED BY TOBACCO CONTROL STAKEHOLDERS

A.1 Ron Borland, Letter to the Hon Tony Abbot MP, 5 December 2005

5 December 2005

The Hon Tony Abbott MP
Minister for Health and Ageing
Leader of the House of Representatives
Parliament House
CANBERRA ACT 2600

Dear Minister

I am writing to you in the hope that your office would be able to facilitate access to information about tobacco products that should be, but currently is not readily available. Information requested includes basic cigarette constructions parameters, packaging and emissions and related data. A detailed list of this information is attached to this letter.

Public access to this information would be useful for government in helping it frame its ongoing response to, and reporting obligations under the Framework Convention on Tobacco Control. Specifically relevant are Articles 9, 10, 11, 20, and 21.

I am personally interested in working on this data as part of my research. I am one of the Chief Investigators of the International Tobacco Control Policy Evaluation Collaboration.

This is a complex of projects funded primarily by the National Institutes of Health in the USA, but also by others including the National Health and Medical Research Council. Our goal is to understand and evaluate the effects of national level tobacco control policies and disseminated programs, particularly on smokers. We are very interested in understanding the response of the tobacco companies to forthcoming regulation removing ISO constituents information, and the controls over terminology that have arisen out of the Australian Competition and Consumer Commission investigation. As part of this complex of projects, we are also partnering with the Division of Laboratory Sciences, National Center for Environmental Health, and Centers for Disease Control and Prevention, in the USA to better understand how the composition of cigarettes affects smoking behaviour and its attendant risks.

In many other countries, lists of ISO standard emissions and some other basic data are provided by the industry to government or are produced through independent testing. This used to be the case in Australia. If the community is to properly understand how the industry responds to the new government and regulator initiatives, we need access to basic information. It would be possible, but expensive, for us to discover this information by testing cigarettes in much the same way as the Philip Morris company does (or at least used to do) with their own and other companies' products. Indeed we have already started doing some of this work.

It would be perfectly reasonable to assume that most of the information is already being collected, given what was in the Philip Morris CI Report 84 from 1994 (the last we have from the US industry document disclosure): The main area we go beyond the CI data is in asking for parameters based on the new Intense Canadian smoking conditions as well as the old ISO Standard method. I have taken care to ensure the information asked for is likely to be available to the companies and/or not require any substantial additional testing.

I have discussed what is needed with colleagues both in Australia and internationally. The list of information we believe is necessary is attached. For the construction and packaging characteristics listed below we recommend they be provided on all brands and brand varieties on the market, and pre-marketing (with dates of release) for all new products or changes to existing products.

We would like the government to require disclosure of this emissions information on an annual basis, and that information to be made publicly available, or at least made available to bona fide researchers. This could be done on the Department's website.

For the above information, we would also like the companies to disclose the methods they used to gather the data and information on errors of measurement. If these differ by company, we could then move towards standardised reporting. We believe that it is important to have this information to better understand the nature of the cigarette and now it might contribute to the harms of tobacco use.

There is much more information that will be needed if we are to have effective regulation of tobacco products, for example testing and reporting of emissions of known toxins and information on how these change as a function of how the cigarette is smoked. Your

department negotiated testing of several brands for a range of toxins in 2001. It would be extremely useful to repeat this regularly. Data from Canada, where this is required suggests quite marked variation in some toxins over time (since 2000). This information is unlikely to be currently available, and will be expensive to collect, so suggest that this be treated as a separate issue to the provision of the readily obtainable information.

Should your office have any queries in relation to this request, I can be contacted on ph. 03 9635 5185 or by e-mail at Ron.Borland@cancervic.org.au

Yours sincerely

Ron Borland PhD
Nigel Gray Distinguished Fellow in Cancer Prevention
The Cancer Council Victoria.
Professorial Associate,
School of Population Health, The University of Melbourne
Principal Investigator, The International Tobacco Control Policy Evaluation Collaboration

Attach.

cc Hon Christopher Pyne, Parliamentary Secretary to the Minister for Health and Ageing
Ms Jane Halton, Secretary of the Department of Health and Ageing

Attachment: list of product information to be made available for each brand variant on the market

Basic cigarette construction parameters
Cigarette length and circumference
Tobacco rod length
Paper porosity
Filter type
Filter length
Filter weight
Tipping length
Tipping dilution type (ie: filter ventilation), including positioning in mm from the butt end
Dilution percentage due to filter venting
Percentage virginia tobacco and of any other types added (eg Burley)
Reconstituted tobacco percentage (if any)
Cigarette weight
Tobacco weight
Filter draw resistance
Total draw resistance, with and without filter ventilation blocked

Packaging
Colour digital photographs, large enough and with sufficient resolution to read all text of all faces (and of any design material or inserts inside the pack) of all products, or product variants, on the market.

Emissions and related data
Standard ISO and, if possible, Intense Canadian mean levels of Tar/Nicotine/CO (and standard deviations on those estimates)
Puff count for both Standard and Intense smoking conditions (and Standard deviations)
Std and Intense filtration efficiency

We are aware that the ISO emissions data are not useful for estimating human exposures to tobacco toxicants, however they are reasonable indicators of how hard smokers need to work to obtain their desired dose of nicotine. In the absence of better measures, this is all we can expect.

B

APPENDIX B: RESEARCH TOOLS

B.1 Discussion guide for smokers and non-smokers

Existing knowledge of ingredients and emissions

- What do you think is meant by 'cigarette ingredients'? How would you explain to someone what the term 'cigarette ingredients' means?
- What do you think is meant by 'cigarette emissions'? Is this a term that you have heard before?
- What do you think is the difference between cigarette ingredients and cigarette emissions?

Notepad exercise

- What cigarette ingredients do you know of? Please write down any that come to mind.
- What do you think is in cigarette smoke? Please write down anything that comes to mind.

Discuss notepad responses

Expectations about location and content of ingredients and emission data

- Have you ever seen information about the ingredients in cigarettes or the contents of cigarette smoke? Where? Were you looking for the information or did you come across it by accident? What information can you remember?
- If you wanted to find information about cigarette ingredients and emissions, where would you look for it? [If not mentioned, probe on internet, cigarette packs, Quitline, doctor/health professional, tobacco retailers, government organisations, anti-smoking groups.] Why would/wouldn't you look there?

- Who would you trust to provide accurate and reliable information? What makes you say that?

- Would you be interested to find out more about what is in cigarettes and cigarette smoke?

- If you were looking for information about cigarette ingredients and emissions, what would you want to know?

- There is a Voluntary Agreement between the Department of Health and Ageing and some of the Australian tobacco companies. The tobacco companies provide information about cigarette ingredients and emissions, and the Department puts this information on its website so that the public can access it. If you were to look on the website, what sort of information would you expect to find? What would the information tell you?

Understanding of disclosed information

INGREDIENTS

Hand out two examples of ingredients data sheets (from 'By brand variants ingredients list': "Benson and Hedges Smooth" and "Lucky Strike Original Silver"). Ask participants to read information and to circle anything that they don't understand/write down any comments/questions they may have.

- How easy or difficult do you think it is to understand this information? What makes you say that? What things, if any, did you find difficult to understand?

- Can you explain to me what the information means?

- How easy or difficult do you think it is to understand this information? What makes you say that? What things, if any, did you find difficult to understand?

- Can you explain to me what the information means?

- How does this information differ from the previous examples you saw? What is the connection between the two?

- Having looked at these lists, do you think that there are ingredients other than tobacco in cigarettes? What are these ingredients? Why are these ingredients added? / What do they do?

- How harmful do you think these ingredients are when they are smoked? Do you think some are more harmful than others? Which ones?

Hand out example of non-tobacco ingredients list (i.e. cigarette paper) from Imperial Tobacco.

- Can you explain to me what this information means?
- Had you ever previously thought about the ingredients used in the cigarette paper, the cigarette adhesive (i.e. the glue used to seal the paper) or the filter?

EMISSIONS

Hand out two examples of 'Emissions report' (mainstream and sidestream data for two products): PML example; (Mainstream smoke 1: Peter Jackson Ultra Mild (3.7mg tar), Mainstream smoke 2: Peter Jackson Extra Mild (9.9 mg tar), Sidestream Smoke: Peter Jackson Extra Mild &/or Peter Jackson Ultra Mild), BATA example (Mainstream smoke 1: Winfield Supermild (7.74) Mainstream smoke 2: Winfield Filter (12.4) Sidestream smoke: Winfield Filter and/or Winfield Supermild. Ask participants to read information and to circle anything that they don't understand/write down any comments/questions they may have.

- How easy or difficult do you think it is to understand this information? What makes you say that? What things, if any, did you find difficult to understand?
- Can you explain to me what the information means?
- When/if you smoked a cigarette, is this what you would be inhaling? What makes you think that?

Comprehensiveness, accuracy and relevance

- Is there too much information, not enough, or just the right amount? What makes you say that?
- Is there any information that you think should be here but isn't? What is missing?
- How does the information compare to what you were expecting?
- How accurate or truthful do you think this information is? What makes you say that?
- Does the fact that the information is on the Department of Health and Ageing's website influence your view of it? In what way?
- How interesting do you find this information? Why?
- How relevant is this information for you? Why?

- [For parents] To what extent do you think that your teenage children would understand this information? Do you have any concerns about the information provided? What concerns you and why?

Presentation

- What do think about the way the information is presented/laid out? Does it make it easier or harder to understand it? What makes you say that?

- How appealing or inviting do you find the presentation of the information? Does the way it is presented make you more or less likely to read it?

- Is the internet a good way to provide access to this information? Why/why not? In what other ways could this information be made available to the public? What would be the advantages and disadvantages of each of these?

Perceived impacts on attitudes and behaviour

- The information that you've seen today … does it influence your view about the health risks of smoking at all? In what way? Do you now think of smoking as more dangerous or less dangerous, or is your perception unchanged? What has made you think that?

- Having looked at the ingredients, do some brands of cigarettes seem more or less harmful than others? Why do you think so? [Gauge whether participants believe that tobacco with fewer additional ingredients is safer or more natural.]

- Do you think that this information will change your behaviour in any way?

    - [Smokers] Does this information make you think about quitting? [If yes] How powerful is it? [If no] Why not?

    - [Non-smokers] Does this information make you think that you won't take up smoking? [If yes] How much of a deterrent is it? [If no] Why not?

    - [Quitters] Does this information encourage you to stay quit? [If yes] How much of an impact does it have on you? [If no] Why not?

Perceived importance of disclosure

- Should information about cigarette ingredients and emissions be made available to everyone? Why or why not? What are the advantages and disadvantages of being able to access this information?

- Who should be responsible for providing the information to the public? Is it the responsibility of tobacco companies or is it government's responsibility?

- Should tobacco companies be required by law to disclose this information to the public or should it be voluntary? Why?

- How important is it for this information to be made available to everyone? What makes you say that?

    - Are there any particular groups of people that you think would benefit from this information? Who? Why? Is there anyone who you think would not benefit/could this information have a negative effect for anyone? Who? Why?

    - Do you think that being able to access this information has benefits for you personally? Why or why not?

CLOSING

Thank you for coming. This research is being conducted on behalf of the Department of Health and Ageing. The findings will be used to help them to determine how valuable it is to provide information about cigarette ingredients and emissions to the public, and the best way to provide this information.

B.2 Group discussion notepad exercise

What cigarettes do you know of? Please write down any that come to mind.

What do you think is in cigarette smoke? Please write down anything that comes to mind.

B.3 Examples of disclosed data for smokers and non-smokers

BRITISH AMERICAN TOBACCO AUSTRALIA LIMITED
Australia Ingredients Report
By-Brand Variant Ingredients List
For Reporting Period 1 March 2006 to 1 March 2007
(pursuant to Clause 6.3 (i) of the Agreement between the Commonwealth and the Manufacturers dated December 2000)

Benson & Hedges Smooth

Product weight: 0.8507 g

Tobacco weight: 0.6555 g

Ingredients listed in descending order by weight:

Tobacco

Water

Processing aids

NOTES:

* Refer to the "Composite List of Tobacco Ingredients" accompanying this report for the quantities not exceeded and function of the listed ingredients.

* Flavourings that make up each brand's unique flavour characteristics are grouped as "natural" and/or "artificial" flavours. Each flavouring grouped under this heading is disclosed in the "Composite List of Tobacco Ingredients" accompanying this report.

* Details of the non-tobacco ingredients can be found in the "Composite list of Non-Tobacco Ingredients" accompanying this report.

* Processing aids and preservatives that are not significantly present in, and do not functionally affect, the finished product are grouped as "processing aids" and/or "preservatives". Each processing aid and preservative grouped under this heading is disclosed in the "Composite List of Tobacco Ingredients" accompanying this report.

BRITISH AMERICAN TOBACCO AUSTRALIA LIMITED
Australia Ingredients Report
By-Brand Variant Ingredients List
For Reporting Period 1 March 2006 to 1 March 2007
(pursuant to Clause 6.3 (i) of the Agreement between the Commonwealth and the Manufacturers dated December 2000)

Lucky Strike Original Silver

Product weight: 0.9140 g

Tobacco weight: 0.6720 g

Ingredients listed in descending order by weight:

Tobacco
Water
Propylene glycol
Glycerol
Honey
Sugar, brown
Licorice extract, fluid
Sugar, invert
Cocoa powder
Cocoa nibs
Cellulose fibre
Diammonium hydrogen phosphate
Flavourings

NOTES:

* Refer to the "Composite List of Tobacco Ingredients" accompanying this report for the quantities not exceeded and function of the listed ingredients.

* Flavourings that make up each brand's unique flavour characteristics are grouped as "natural" and/or "artificial" flavours. Each flavouring grouped under this heading is disclosed in the "Composite List of Tobacco Ingredients" accompanying this report.

* Details of the non-tobacco ingredients can be found in the "Composite list of Non-Tobacco Ingredients" accompanying this report.

* Processing aids and preservatives that are not significantly present in, and do not functionally affect, the finished product are grouped as "processing aids" and/or "preservatives". Each processing aid and preservative grouped under this heading is disclosed in the "Composite List of Tobacco Ingredients" accompanying this report.

Attachment A

Philip Morris LTD
Australia Ingredients Report
Composite List of Tobacco Ingredients
For Reporting Period (March 1, 2006 to March 1, 2007)
(pursuant to Clause 6.3(ii) of the Agreement between the
Commonwealth and the Manufacturers dated December 20, 2000)

INGREDIENT (in alphabetical order)	QUANTITY NOT EXCEEDED (% of product weight)	FUNCTION
acetanisole	0.0001	Flavour
acetic acid	0.0005	Flavour
acetoin	0.0001	Flavour
acetophenone	0.0001	Flavour
acetylpyrazine	0.0001	Flavour
alpha-ionone	0.0005	Flavour
alpha-phellandrene	0.0001	Flavour
alpha-pinene	0.0001	Flavour
alpha-terpineol	0.0005	Flavour
anisyl alcohol	0.0001	Flavour
benzoic acid (QNE for RYO)	0.05	Preservative
benzoin, resinoid	0.0001	Flavour

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Philip Morris LTD
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INGREDIENT (in alphabetical order)	QUANTITY NOT EXCEEDED (% of product weight)	FUNCTION
benzyl alcohol	0.1	Flavour
benzyl benzoate	0.0001	Flavour
benzyl butyrate	0.0001	Flavour
benzyl cinnamate	0.0001	Flavour
beta-caryophyllene	0.0001	Flavour
beta-ionone	0.0005	Flavour
beta-pinene	0.0001	Flavour
bornyl acetate	0.0001	Flavour
buchu leaves oil	0.0001	Flavour
butyl alcohol	0.005	Flavour
butyl butyrate	0.0001	Flavour
butyric acid	0.0001	Flavour

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INGREDIENT (in alphabetical order)	QUANTITY NOT EXCEEDED (% of product weight)	FUNCTION
camphene	0.0001	Flavour
cardamom seed oil	0.0005	Flavour
carob bean and/or extract	0.2	Flavour
carrot oil	0.0001	Flavour
celery seed oil	0.0005	Flavour
chamomile flower, hungarian, oil	0.0001	Flavour
chamomile flower, roman, extract & oil	0.0005	Flavour
cinnamaldehyde	0.0005	Flavour
cinnamic acid	0.0001	Flavour
cinnamon bark oil	0.0005	Flavour
cinnamyl alcohol	0.0001	Flavour
cinnamyl cinnamate	0.0001	Flavour

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INGREDIENT (in alphabetical order)	QUANTITY NOT EXCEEDED (% of product weight)	FUNCTION
cinnamyl isovalerate	0.0001	Flavour
citral	0.0001	Flavour
citric acid	0.0001	Flavour
citric acid (QNE for RYO)	0.2	Flavour
citronellyl isobutyrate	0.0005	Flavour
clary oil	0.0005	Flavour
cocoa and cocoa products	0.2	Flavour
coffee extract	0.005	Flavour
cognac oil, green	0.0001	Flavour
coriander oil	0.0005	Flavour
d,l-citronellol	0.0001	Flavour
decanal	0.0001	Flavour

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INGREDIENT (in alphabetical order)	QUANTITY NOT EXCEEDED (% of product weight)	FUNCTION
decanoic acid	0.0001	Flavour
delta-decalactone	0.0001	Flavour
diacetyl	0.0005	Flavour
dill oil	0.0005	Flavour
2,5-dimethylpyrazine	0.0001	Flavour
ethyl acetate	0.005	Flavour
ethyl butyrate	0.0005	Flavour
ethyl cinnamate	0.0001	Flavour
ethyl heptanoate	0.0005	Flavour
ethyl hexanoate	0.0005	Flavour
ethyl isovalerate	0.0001	Flavour
ethyl maltol	0.0001	Flavour

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INGREDIENT (in alphabetical order)	QUANTITY NOT EXCEEDED (% of product weight)	FUNCTION
ethyl-2-methylbutyrate	0.0001	Flavour
ethyl nonanoate	0.0001	Flavour
ethyl phenylacetate	0.0001	Flavour
ethyl propionate	0.0005	Flavour
ethyl vanillin	0.005	Flavour
5-ethyl-3-hydroxy-4-methyl-2(5h)-furanone	0.0001	Flavour
fenugreek extract	0.0005	Flavour
galbanum oil	0.0001	Flavour
gamma-decalactone	0.0001	Flavour
gamma-heptalactone	0.0001	Flavour
gamma-nonalactone	0.0001	Flavour
gamma-octalactone	0.0001	Flavour

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INGREDIENT (in alphabetical order)	QUANTITY NOT EXCEEDED (% of product weight)	FUNCTION
gamma-undecalactone	0.0001	Flavour
gamma-valerolactone	0.0001	Flavour
geraniol	0.0001	Flavour
geranium rose oil	0.0001	Flavour
geranyl acetate	0.0001	Flavour
geranyl butyrate	0.0001	Flavour
geranyl formate	0.0001	Flavour
ginger oil	0.0005	Flavour
glycerol	2.6	Humectant
guar gum	0.05	Binder
2,4-heptadienal	0.0001	Flavour
2-heptanone	0.0001	Flavour

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Australia Ingredients Report
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INGREDIENT (in alphabetical order)	QUANTITY NOT EXCEEDED (% of product weight)	FUNCTION
hexanoic acid	0.0001	Flavour
3-hexen-1-ol	0.0005	Flavour
hexen-2-al	0.0001	Flavour
hexyl acetate	0.0001	Flavour
honey	3.3	Flavour
isoamyl acetate	0.0001	Flavour
isoamyl formate	0.0005	Flavour
isoamyl isovalerate	0.0001	Flavour
isoamyl phenylacetate	0.0001	Flavour
isobutyl alcohol	0.001	Flavour
isobutyric acid	0.0005	Flavour
jasmine absolute	0.0001	Flavour

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INGREDIENT (in alphabetical order)	QUANTITY NOT EXCEEDED (% of product weight)	FUNCTION
kola nut extract	0.01	Flavour
lauric acid	0.0001	Flavour
lemon oil	0.0001	Flavour
licorice extract	0.7	Flavour
linalool	0.0001	Flavour
l-menthol	1	Flavour
lovage extract	0.005	Flavour
maltol	0.0005	Flavour
mate absolute	0.0001	Flavour
2-methoxy-4-methylphenol	0.0001	Flavour
methyl anthranilate	0.0001	Flavour
methyl cinnamate	0.0001	Flavour

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INGREDIENT (in alphabetical order)	QUANTITY NOT EXCEEDED (% of product weight)	FUNCTION
methyl-cyclopentenolone	0.0001	Flavour
methyl linolenate	0.0001	Flavour
methyl phenylacetate	0.0001	Flavour
2-methylbutyric acid	0.0001	Flavour
6-methyl-3,5-heptadien-2-one	0.0001	Flavour
6-methyl-5-hepten-2-one	0.0001	Flavour
mimosa absolute	0.0001	Flavour
octanoic acid	0.0001	Flavour
omega-pentadecalactone	0.0001	Flavour
opoponax oil	0.0001	Flavour
orange oil, sweet	0.0001	Flavour
orris root extract	0.0005	Flavour

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INGREDIENT (in alphabetical order)	QUANTITY NOT EXCEEDED (% of product weight)	FUNCTION
para-cymene	0.0001	Flavour
para-dimethoxybenzene	0.0001	Flavour
4-(para-hydroxyphenyl)-2-butanone	0.001	Flavour
para-methoxybenzaldehyde	0.005	Flavour
parsley oil	0.0005	Flavour
pepper oil, black	0.0005	Flavour
peppermint oil	0.005	Flavour
phenethyl acetate	0.0001	Flavour
phenethyl alcohol	0.0001	Flavour
phenethyl butyrate	0.0001	Flavour
phenethyl isobutyrate	0.0001	Flavour
phenylacetaldehyde	0.0001	Flavour

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Australia Ingredients Report
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For Reporting Period (March 1, 2006 to March 1, 2007)
(pursuant to Clause 6.3(ii) of the Agreement between the
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INGREDIENT (in alphabetical order)	QUANTITY NOT EXCEEDED (% of product weight)	FUNCTION
phenylacetic acid	0.0005	Flavour
pine needle oil	0.0001	Flavour
pine oil, scotch	0.0001	Flavour
piperonal	0.005	Flavour
propenylguaethol	0.0001	Flavour
propylene glycol	2.4	Humectant
3-propylidenephthalide	0.0001	Flavour
pyruvic acid	0.0001	Flavour
rose oil, bulgarian, true otto	0.0001	Flavour
rum flavour, non-alcoholic	0.0001	Flavour
sandalwood oil, yellow	0.0005	Flavour
sclareolide	0.001	Flavour

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INGREDIENT (in alphabetical order)	QUANTITY NOT EXCEEDED (% of product weight)	FUNCTION
sodium benzoate (QNE for RYO)	0.3	Preservative
spearmint oil	0.0005	Flavour
sugar: invert sugar	2.2	Flavour, Humectant
sugar: sucrose	3	Flavour, Humectant
terpinolene	0.0001	Flavour
4-(2,6,6-trimethylcyclohex-1-enyl)-but-2-en-4-one	0.0001	Flavour
2,3,5-trimethylpyrazine	0.0001	Flavour
valeraldehyde	0.0005	Flavour
vanilla extract	0.0001	Flavour
vanillin	0.05	Flavour
veratraldehyde	0.0001	Flavour
vetiver oil	0.0005	Flavour

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Australia Ingredients Report
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INGREDIENT (in alphabetical order)	QUANTITY NOT EXCEEDED (% of product weight)	FUNCTION
water	17.6	Moisturizer, Processing Aid
processing aids: carbon dioxide, ethyl alcohol		Processing aids

Imperial Tobacco Australia Limited
Australia Ingredients Report
Composite List of Non-Tobacco Ingredients
For Reporting Period 2nd March 2006 to 1st March 2007.
(pursuant to Clause 6.3(iii) of the Agreement between the
Commonwealth and the Manufacturers dated December 2000).

CIGARETTE PAPER

Ingredient	**Quantity Not Exceeded (% of product weight)**
Cellulose	4.1
Calcium carbonate	2.1
Potassium citrate	0.16
Sodium acetate	0.11
Sodium citrate	0.097
Guar gum	0.0065
Processing aids	

Emissions report

Date *April 2001*

Mainstream smoke

Manufacturers name British American Tobacco Australia
Brand name and variant Winfield Super Mild KS HP
Sample ID 010033

Filter Efficiency 42.9 0.873
pH level (mean and SD) 6.18 0.051
Tobacco weight mg 820 9.06

		Standard ISO		Intensive*	
	Unit	Mean	SD	Mean	SD
Puffs	per cig	6.98	0.211	8.44	0.248
Tar	mg/cig	7.74	0.476	26.2	1.81
Nicotine	mg/cig	0.765	0.024	2.09	0.127
Carbon Monoxide	mg/cig	6.47	0.424	22.1	1.08
Ammonia	ug/cig	9.27	0.854	22.7	1.17
1-aminonaphthalene	ng/cig	15.8	1.41	21.2	1.79
2-aminonaphthalene	ng/cig	10.2	0.688	13.7	0.995
3-aminobiphenyl	ng/cig	2.16	0.264	3.60	0.293
4-aminobiphenyl	ng/cig	1.73	0.234	2.77	0.157
Benzo[a]pyrene	ng/cig	7.03	0.568	15.4	1.86
Formaldehyde	ug/cig	30.1	8.95	112	12.9
Acetaldehyde	ug/cig	363	46.8	1125	68.1
Acetone	ug/cig	216	20.8	577	20.3
Acrolein	ug/cig	35.9	5.13	119	6.17
Propionaldehyde	ug/cig	32.7	3.90	97.2	4.98
Crotonaldehyde	ug/cig	14.2	2.77	44.2	6.80
Butyraldehyde	ug/cig	25.0	3.08	78.8	3.64
Methyl ethyl ketone	ug/cig	50.4	5.04	168	14.0
Hydrogen cyanide	ug/cig	59.2	3.65	247	23.7
Mercury	ng/cig	2.65	0.126	5.37	0.889
Lead	ng/cig	NQ	NQ	NQ	NQ
Cadmium	ng/cig	23.6	1.35	73.7	5.18
Nitric Oxide	ug/cig	44.4	5.84	138	8.37
NOx	ug/cig	46.0	6.33	151	10.0
N-nitrosonornicotine	ng/cig	19.3	2.02	56.7	6.91
4-(*N*-nitrosomethylamino)-1-(3-pyridyl)-1-butanone	ng/cig	21.1	2.05	72.3	6.09
N-nitrosoanatabine	ng/cig	33.4	4.40	101	5.59
N-nitrosoanabasine	ng/cig	4.40	0.734	17.0	2.78
Pyridine	ug/cig	7.52	0.892	35.2	3.29
Quinoline	ug/cig	0.316	0.021	0.633	0.036
Hydroquinone	ug/cig	47.5	1.77	127	8.37
Resorcinol	ug/cig	0.922	0.054	2.80	0.293
Cathecol	ug/cig	46.3	1.30	105	7.12
Phenol	ug/cig	16.4	1.15	27.5	3.92
m+p Cresol	ug/cig	9.52	0.304	16.6	2.29
o-Cresol	ug/cig	4.13	0.191	6.75	0.612
1,3 Butadiene	ug/cig	35.2	2.18	100	8.30
Isoprene	ug/cig	285	14.4	800	52.4
Acrylonitrile	ug/cig	5.68	0.518	16.7	2.18
Benzene	ug/cig	30.5	2.05	70.8	5.10
Toluene	ug/cig	46.9	3.03	115	6.26
Styrene	ug/cig	6.23	0.611	22.6	1.42

Legend
SD = Standard Deviation
mg = milligrams per cigarette
*u*g = micrograms per cigarette
ng = nanograms per cigarette
NQ = Below Limit of Quantitation
BDL = Below Limit of Detection

* Intensive conditions are defined as:
(i) the condition set out in the International Organization for Standardization standard ISO 3308, third edition 1991-10-15, entitled *Routine analytical cigarette-smoking machine- Definitions and standard conditions*, 1991 (E); and
(ii) the conditions referred to in paragraph (i), but modified in the following manner:

puff volume must be increased from 35ml to 55ml;
puff interval must be decreased from 60 s to 30 s; and
all ventilation holes must be blocked by placing over them a strip of Mylar adhesive tape, Scotch Brand product no. 60 Transparent Tape, and the tape must be cut so that it covers the circumference and is tightly secured from the end of the filter to the tipping overwrap seam, or another method of equivalent efficiency.

Emissions report

Date *April 2001*

Mainstream smoke

Manufacturers name British American Tobacco Australia

Brand name and variant Winfield Filter KS HP

Sample ID 010036

Filter Efficiency 35.8 1.00

pH level (mean and SD) 6.06 0.059

Tobacco weight mg 834 8.56

		Standard ISO		Intensive*	
	Unit	Mean	SD	Mean	SD
Puffs	per cig	6.63	0.162	8.76	0.400
Tar	mg/cig	12.4	0.749	29.0	1.86
Nicotine	mg/cig	1.05	0.040	2.27	0.095
Carbon Monoxide	mg/cig	10.1	0.922	22.0	1.30
Ammonia	ug/cig	14.0	1.14	24.8	2.47
1-aminonaphthalene	ng/cig	16.6	2.44	26.5	1.12
2-aminonaphthalene	ng/cig	10.0	1.41	16.4	0.894
3-aminobiphenyl	ng/cig	2.39	0.323	4.13	0.322
4-aminobiphenyl	ng/cig	1.91	0.247	3.16	0.296
Benzo[a]pyrene	ng/cig	11.4	1.08	17.0	1.43
Formaldehyde	ug/cig	51.5	4.12	113	3.98
Acetaldehyde	ug/cig	574	37.6	1105	88.6
Acetone	ug/cig	312	25.0	556	24.5
Acrolein	ug/cig	56.4	5.53	116	6.62
Propionaldehyde	ug/cig	49.0	3.50	94.1	5.30
Crotonaldehyde	ug/cig	25.7	2.30	38.5	3.91
Butyraldehyde	ug/cig	37.8	3.48	76.3	4.35
Methyl ethyl ketone	ug/cig	77.5	7.64	160	12.6
Hydrogen cyanide	ug/cig	114	3.99	256	19.0
Mercury	ng/cig	3.29	0.110	5.46	0.402
Lead	ng/cig	15.5	1.56	27.5	5.06
Cadmium	ng/cig	40.0	3.79	83.1	3.92
Nitric Oxide	ug/cig	77.7	11.1	153	11.8
NOx	ug/cig	81.7	12.2	167	13.1
N-nitrosonornicotine	ng/cig	23.5	3.78	57.5	7.98
4-(*N*-nitrosomethylamino)-1-(3-pyridyl)-1-butanone	ng/cig	33.7	1.84	76.5	12.1
N-nitrosoanatabine	ng/cig	46.3	4.62	102	12.6
N-nitrosoanabasine	ng/cig	5.83	0.902	15.5	3.27
Pyridine	ug/cig	14.9	1.55	38.0	4.79
Quinoline	ug/cig	0.441	0.055	0.742	0.059
Hydroquinone	ug/cig	66.9	4.11	146	9.61
Resorcinol	ug/cig	1.16	0.079	3.81	0.361
Cathecol	ug/cig	60.5	3.36	124	11.3
Phenol	ug/cig	20.7	1.75	33.3	4.73
m+p Cresol	ug/cig	12.4	0.900	21.2	2.06
o-Cresol	ug/cig	5.11	0.327	8.03	0.630
1,3 Butadiene	ug/cig	54.9	3.41	96.5	6.06
Isoprene	ug/cig	441	17.9	807	69.5
Acrylonitrile	ug/cig	9.90	1.10	18.5	2.42
Benzene	ug/cig	42.6	3.87	71.4	8.21
Toluene	ug/cig	63.3	5.73	111	12.1
Styrene	ug/cig	10.2	1.20	24.2	2.39

Legend
SD = Standard Deviation
mg = milligrams per cigarette
*u*g = micrograms per cigarette
ng = nanograms per cigarette

* Intensive conditions are defined as:
(i) the condition set out in the International Organization for Standardization standard ISO 3308, third edition 1991-10-15, entitled *Routine analytical cigarette-smoking machine- Definitions and standard conditions* , 1991 (E); and
(ii) the conditions referred to in paragraph (i), but modified in the following manner:

puff volume must be increased from 35ml to 55ml;
puff interval must be decreased from 60 s to 30 s; and
all ventilation holes must be blocked by placing over them a strip of Mylar adhesive tape, Scotch Brand product no. 60 Transparent Tape, and the tape must be cut so that it covers the circumference and is tightly secured from the end of the filter to the tipping overwrap seam, or another method of equivalent efficiency.

Emissions report

Date *April 2001*

Sidestream smoke

Legend
SD = Standard Deviation
mg = milligrams per cigarette
u g = micrograms per cigarette
ng = nanograms per cigarette
NQ = Below Limit of Quantitation
BDL = Below Limit of Detection

Manufacturers name British American Tobacco Australia
Brand name and variant Winfield Super Mild KS HP
Sample ID 010033

Tobacco weight mg 812 16.5

		Standard ISO	
	Unit	Mean	SD
Puffs	per cig	7.74	0.227
Tar	mg/cig	22.8	1.17
Nicotine	mg/cig	5.60	0.439
Carbon Monoxide	mg/cig	48.7	1.97
Ammonia	*u* g/cig	5259	230
1-aminonaphthalene	ng/cig	212	15.3
2-aminonaphthalene	ng/cig	154	10.5
3-aminobiphenyl	ng/cig	35.8	5.35
4-aminobiphenyl	ng/cig	23.8	3.28
Benzo[a]pyrene	ng/cig	79.4	7.34
Formaldehyde	*u* g/cig	367	33.9
Acetaldehyde	*u* g/cig	1373	74.4
Acetone	*u* g/cig	893	39.4
Acrolein	*u* g/cig	273	17.9
Propionaldehyde	*u* g/cig	136	7.36
Crotonaldehyde	*u* g/cig	75.9	4.07
Butyraldehyde	*u* g/cig	109	5.61
Methyl ethyl ketone	*u* g/cig	207	10.8
Hydrogen cyanide	*u* g/cig	132	12.3
Mercury	ng/cig	8.16	1.22
Lead	ng/cig	NQ	NQ
Cadmium	ng/cig	314	11.5
Nitric Oxide	*u* g/cig	1549	147
NOx	*u* g/cig	1637	144
N-nitrosonornicotine	ng/cig	46.6	3.79
4-(*N*-nitrosomethylamino)-1-(3-pyridyl)-1-butanone	ng/cig	117	14.9
N-nitrosoanatabine	ng/cig	30.0	3.85
N-nitrosoanabasine	ng/cig	10.7	1.88
Pyridine	*u* g/cig	284	11.3
Quinoline	*u* g/cig	13.2	0.575
Hydroquinone	*u* g/cig	141	12.9
Resorcinol	*u* g/cig	NQ	NQ
Cathecol	*u* g/cig	102	10.8
Phenol	*u* g/cig	253	21.4
m+p Cresol	*u* g/cig	69.1	7.49
o-Cresol	*u* g/cig	30.6	2.44
1,3 Butadiene	*u* g/cig	353	14.2
Isoprene	*u* g/cig	2865	140
Acrylonitrile	*u* g/cig	97.8	3.39
Benzene	*u* g/cig	271	6.17
Toluene	*u* g/cig	534	15.9
Styrene	*u* g/cig	92.9	3.83

Emissions report

Date *April 2001*

Sidestream smoke

Legend
SD = Standard Deviation
mg = milligrams per cigarette
*u*g = micrograms per cigarette
ng = nanograms per cigarette
NQ = Below Limit of Quantitation
BDL = Below Limit of Detection

Manufacturers name British American Tobacco Australia
Brand name and variant Winfield Filter KS HP
Sample ID 010036

Tobacco weight mg 840 9.00

		Standard ISO	
	Unit	Mean	SD
Puffs	per cig	7.49	0.278
Tar	mg/cig	22.3	2.43
Nicotine	mg/cig	5.70	0.289
Carbon Monoxide	mg/cig	48.1	3.25
Ammonia	*u*g/cig	5077	195
1-aminonaphthalene	ng/cig	213	11.9
2-aminonaphthalene	ng/cig	161	6.86
3-aminobiphenyl	ng/cig	40.0	5.55
4-aminobiphenyl	ng/cig	26.4	2.95
Benzo[a]pyrene	ng/cig	86.8	7.40
Formaldehyde	*u*g/cig	350	26.6
Acetaldehyde	*u*g/cig	1305	59.5
Acetone	*u*g/cig	866	38.7
Acrolein	*u*g/cig	264	13.8
Propionaldehyde	*u*g/cig	134	6.91
Crotonaldehyde	*u*g/cig	69.3	5.17
Butyraldehyde	*u*g/cig	105	5.28
Methyl ethyl ketone	*u*g/cig	198	10.7
Hydrogen cyanide	*u*g/cig	110	9.64
Mercury	ng/cig	7.90	0.512
Lead	ng/cig	NQ	NQ
Cadmium	ng/cig	308	14.3
Nitric Oxide	*u*g/cig	1533	52.3
NOx	*u*g/cig	1622	53.5
N-nitrosonornicotine	ng/cig	46.6	10.7
4-(*N*-nitrosomethylamino)-1-(3-pyridyl)-1-butanone	ng/cig	112	18.1
N-nitrosoanatabine	ng/cig	26.4	1.97
N-nitrosoanabasine	ng/cig	9.88	1.36
Pyridine	*u*g/cig	261	12.6
Quinoline	*u*g/cig	11.8	0.866
Hydroquinone	*u*g/cig	129	10.3
Resorcinol	*u*g/cig	NQ	NQ
Cathecol	*u*g/cig	94.3	4.83
Phenol	*u*g/cig	256	13.2
m+p Cresol	*u*g/cig	71.0	4.92
o-Cresol	*u*g/cig	34.7	2.52
1,3 Butadiene	*u*g/cig	320	10.9
Isoprene	*u*g/cig	2680	133
Acrylonitrile	*u*g/cig	89.6	2.39
Benzene	*u*g/cig	237	8.43
Toluene	*u*g/cig	473	19.1
Styrene	*u*g/cig	83.3	3.52

Emissions report

Date April 2, 2001

Mainstream smoke

Manufacturers name Philip Morris - Australia

Brand name and variant Peter Jackson Ultra Mild

Filter Efficiency 59.2% (Standard ISO)

pH level (mean and SD) 6.1 0.06 (Standard ISO)

Tobacco weight mg 827

		Standard ISO		Intensive*	
	Unit	Mean	SD	Mean	SD
Puffs	per cig	6.8	0.26	7.7	0.40
Tar	mg/cig	3.7	0.42	22.1	2.31
Nicotine	mg/cig	0.4	0.02	1.6	0.10
Carbon Monoxide	mg/cig	4.4	0.30	21.7	1.10
Ammonia	*u*g/cig	4.3	0.17	16.5	1.68
1-aminonaphthalene	ng/cig	5.8	0.65	12.4	1.35
2-aminonaphthalene	ng/cig	3.7	0.42	8.2	1.24
3-aminobiphenyl	ng/cig	0.8	0.08	2.1	0.21
4-aminobiphenyl	ng/cig	0.7	0.08	1.6	0.22
Benzo[a]pyrene	ng/cig	4.6	0.42	14.4	1.55
Formaldehyde	*u*g/cig	7.6	1.17	103.7	17.00
Acetaldehyde	*u*g/cig	194.3	14.42	1084.1	119.37
Acetone	*u*g/cig	115.2	10.82	472.8	43.53
Acrolein	*u*g/cig	15.2	1.61	114.3	12.67
Propionaldehyde	*u*g/cig	15.0	1.24	92.2	11.19
Crotonaldehyde	*u*g/cig	4.3	0.51	36.9	5.08
Butyraldehyde	*u*g/cig	11.4	2.08	57.3	9.01
Methyl ethyl ketone	*u*g/cig	19.2	2.91	111.6	10.52
Hydrogen cyanide	*u*g/cig	23.3	1.63	227.3	16.92
Mercury	ng/cig	NQ	NQ	4.4	0.37
Lead	ng/cig	NQ	NQ	NQ	NQ
Cadmium	ng/cig	11.4	1.81	47.3	0.83
Nitric Oxide	*u*g/cig	47.7	5.01	152.1	10.15
NOx	*u*g/cig	48.8	5.27	168.2	13.19
N-nitrosonornicotine	ng/cig	9.0	1.06	32.1	4.33
4-(*N*-nitrosomethylamino)-1-(3-pyridyl)-1-butanone	ng/cig	NQ	NQ	42.0	13.18
N-nitrosoanatabine	ng/cig	19.0	1.51	57.4	4.61
N-nitrosoanabasine	ng/cig	3.4	0.65	12.3	1.63
Pyridine	*u*g/cig	2.6	0.48	21.7	1.96
Quinoline	*u*g/cig	0.1	0.01	0.3	0.04
Hydroquinone	*u*g/cig	27.6	2.03	97.3	5.26
Resorcinol	*u*g/cig	NQ	NQ	2.1	0.13
Catechol	*u*g/cig	22.6	1.44	71.3	1.62
Phenol	*u*g/cig	3.4	0.48	10.0	0.88
m+p Cresol	*u*g/cig	2.6	0.23	7.3	0.43
o-Cresol	*u*g/cig	1.1	0.12	2.7	0.26
1,3 Butadiene	*u*g/cig	21.7	2.30	85.8	3.17
Isoprene	*u*g/cig	165.3	21.49	701.5	42.80
Acrylonitrile	*u*g/cig	2.5	0.34	17.0	1.04
Benzene	*u*g/cig	17.7	2.54	72.5	3.95
Toluene	*u*g/cig	24.8	3.32	104.4	6.85
Styrene	*u*g/cig	2.6	0.42	16.8	1.30

Legend
SD = Standard Deviation
mg = milligrams per cigarette
*u*g = micrograms per cigarette
ng = nanograms per cigarette

* Intensive conditions are defined as:
(i) the condition set out in the International Organization for Standardization standard ISO 3308, third edition 1991-10-15, entitled *Routine analytical cigarette-smoking machine- Definitions and standard conditions* , 1991 (E); and
(ii) the conditions referred to in paragraph (i), but modified in the following manner:

puff volume must be increased from 35ml to 55ml;
puff interval must be decreased from 60 s to 30 s; and
all ventilation holes must be blocked by placing over them a strip of Mylar adhesive tape, Scotch Brand product no. 60 Transparent Tape, and the tape must be cut so that it covers the circumference and is tightly secured from the end of the filter to the tipping overwrap seam, or another method of equivalent efficiency.

Emissions report

Date April 2, 2001

Mainstream smoke

Manufacturers name Philip Morris - Australia
Brand name and variant Peter Jackson Extra Mild

Filter Efficiency 36.5% (Standard ISO)
pH level (mean and SD) 6.0 0.04 (Standard ISO)
Tobacco weight mg 853

		Standard ISO		Intensive*	
	Unit	Mean	SD	Mean	SD
Puffs	per cig	7.1	0.19	8.9	0.37
Tar	mg/cig	9.9	0.47	29.8	2.19
Nicotine	mg/cig	0.9	0.05	2.4	0.17
Carbon Monoxide	mg/cig	9.3	0.55	24.3	1.07
Ammonia	ug/cig	10.0	0.33	22.1	1.43
1-aminonaphthalene	ng/cig	9.5	1.36	18.0	2.24
2-aminonaphthalene	ng/cig	5.9	1.04	11.1	0.86
3-aminobiphenyl	ng/cig	1.4	0.25	2.6	0.14
4-aminobiphenyl	ng/cig	1.1	0.17	2.0	0.10
Benzo[a]pyrene	ng/cig	9.1	0.43	25.3	2.05
Formaldehyde	ug/cig	51.1	8.64	170.8	30.46
Acetaldehyde	ug/cig	508.7	58.86	1312.7	85.36
Acetone	ug/cig	245.6	16.85	581.4	64.97
Acrolein	ug/cig	47.6	5.56	141.2	11.11
Propionaldehyde	ug/cig	39.2	3.58	110.8	5.88
Crotonaldehyde	ug/cig	16.8	1.84	50.6	5.22
Butyraldehyde	ug/cig	26.2	3.01	69.1	5.90
Methyl ethyl ketone	ug/cig	51.5	6.62	137.5	16.46
Hydrogen cyanide	ug/cig	86.4	4.41	226.6	22.53
Mercury	ng/cig	2.5	0.37	4.6	0.52
Lead	ng/cig	14.3	2.88	26.5	7.36
Cadmium	ng/cig	29.2	2.12	72.4	4.38
Nitric Oxide	ug/cig	62.4	6.32	165.4	10.35
NOx	ug/cig	65.4	6.98	182.4	12.52
N-nitrosonornicotine	ng/cig	13.3	1.68	33.8	2.93
4-(*N*-nitrosomethylamino)-1-(3-pyridyl)-1-butanone	ng/cig	16.2	1.79	45.2	5.07
N-nitrosoanatabine	ng/cig	30.0	2.12	66.3	6.05
N-nitrosoanabasine	ng/cig	3.5	0.53	11.9	2.16
Pyridine	ug/cig	9.3	0.72	32.6	1.93
Quinoline	ug/cig	0.3	0.02	0.6	0.06
Hydroquinone	ug/cig	67.3	2.53	162.8	7.39
Resorcinol	ug/cig	0.9	0.04	2.2	0.20
Catechol	ug/cig	54.0	2.58	123.0	3.37
Phenol	ug/cig	17.2	1.42	30.2	3.12
m+p Cresol	ug/cig	8.6	0.71	19.0	0.79
o-Cresol	ug/cig	3.9	0.25	7.4	0.65
1,3 Butadiene	ug/cig	38.3	5.85	91.3	9.17
Isoprene	ug/cig	288.2	38.71	696.9	66.30
Acrylonitrile	ug/cig	6.4	0.89	16.6	2.06
Benzene	ug/cig	31.6	3.84	73.8	8.81
Toluene	ug/cig	46.8	6.17	109.0	12.62
Styrene	ug/cig	6.9	0.44	20.5	0.71

Legend
SD = Standard Deviation
mg = milligrams per cigarette
*u*g = micrograms per cigarette
ng = nanograms per cigarette

* Intensive conditions are defined as:
(i) the condition set out in the International Organization for Standardization standard ISO 3308, third edition 1991-10-15, entitled *Routine analytical cigarette-smoking machine- Definitions and standard conditions* , 1991 (E); and
(ii) the conditions referred to in paragraph (i), but modified in the following manner:

puff volume must be increased from 35ml to 55ml;
puff interval must be decreased from 60 s to 30 s; and
all ventilation holes must be blocked by placing over them a strip of Mylar adhesive tape, Scotch Brand product no. 60 Transparent Tape, and the tape must be cut so that it covers the circumference and is tightly secured from the end of the filter to the tipping overwrap seam, or another method of equivalent efficiency.

Emissions report

Date April 2, 2001

Sidestream smoke

Legend
SD = Standard Deviation
mg = milligrams per cigarette
*u*g = micrograms per cigarette
ng = nanograms per cigarette

Manufacturers name Philip Morris - Australia
Brand name and variant Peter Jackson Ultra Mild

Tobacco weight mg 824

		Standard ISO	
	Unit	Mean	SD
Puffs	per cig	7.4	0.23
Tar	mg/cig	19.0	0.80
Nicotine	mg/cig	5.1	0.06
Carbon Monoxide	mg/cig	42.8	3.92
Ammonia	*u*g/cig	4698.8	241.42
1-aminonaphthalene	ng/cig	192.0	28.99
2-aminonaphthalene	ng/cig	142.8	20.50
3-aminobiphenyl	ng/cig	31.2	0.62
4-aminobiphenyl	ng/cig	20.9	2.09
Benzo[a]pyrene	ng/cig	104.0	2.95
Formaldehyde	*u*g/cig	367.3	28.49
Acetaldehyde	*u*g/cig	1414.0	82.43
Acetone	*u*g/cig	877.4	107.80
Acrolein	*u*g/cig	300.0	18.24
Propionaldehyde	*u*g/cig	133.7	7.50
Crotonaldehyde	*u*g/cig	76.8	6.63
Butyraldehyde	*u*g/cig	77.3	5.16
Methyl ethyl ketone	*u*g/cig	132.6	9.15
Hydrogen cyanide	*u*g/cig	85.1	5.49
Mercury	ng/cig	8.2	0.78
Lead	ng/cig	NQ	NQ
Cadmium	ng/cig	262.6	17.21
Nitric Oxide	*u*g/cig	1589.8	137.11
NOx	*u*g/cig	1626.9	148.40
N-nitrosonornicotine	ng/cig	36.6	2.82
4-(*N*-nitrosomethylamino)-1-(3-pyridyl)-1-butanone	ng/cig	87.4	13.35
N-nitrosoanatabine	ng/cig	29.1	3.02
N-nitrosoanabasine	ng/cig	8.5	1.19
Pyridine	*u*g/cig	230.7	3.39
Quinoline	*u*g/cig	11.5	1.06
Hydroquinone	*u*g/cig	115.2	11.81
Resorcinol	*u*g/cig	NQ	NQ
Catechol	*u*g/cig	84.8	6.28
Phenol	*u*g/cig	209.6	20.32
m+p Cresol	*u*g/cig	53.8	4.94
o-Cresol	*u*g/cig	27.6	1.99
1,3 Butadiene	*u*g/cig	290.5	32.60
Isoprene	*u*g/cig	2691.2	261.84
Acrylonitrile	*u*g/cig	76.1	11.53
Benzene	*u*g/cig	260.2	25.03
Toluene	*u*g/cig	487.8	36.38
Styrene	*u*g/cig	81.1	7.23

Emissions report

Date April 2, 2001

Sidestream smoke

Legend
SD = Standard Deviation
mg = milligrams per cigarette
*u*g = micrograms per cigarette
ng = nanograms per cigarette

Manufacturers name Philip Morris - Australia
Brand name and variant Peter Jackson Extra Mild

Tobacco weight mg 845

		Standard ISO	
	Unit	Mean	SD
Puffs	per cig	7.7	0.25
Tar	mg/cig	20.6	1.24
Nicotine	mg/cig	5.8	0.45
Carbon Monoxide	mg/cig	50.0	2.81
Ammonia	*u*g/cig	4796.3	271.76
1-aminonaphthalene	ng/cig	206.1	19.04
2-aminonaphthalene	ng/cig	145.3	13.18
3-aminobiphenyl	ng/cig	32.4	2.95
4-aminobiphenyl	ng/cig	21.1	2.01
Benzo[a]pyrene	ng/cig	103.7	6.69
Formaldehyde	*u*g/cig	385.3	43.86
Acetaldehyde	*u*g/cig	1529.7	110.92
Acetone	*u*g/cig	984.1	153.92
Acrolein	*u*g/cig	312.9	34.01
Propionaldehyde	*u*g/cig	137.0	10.04
Crotonaldehyde	*u*g/cig	89.4	5.37
Butyraldehyde	*u*g/cig	80.9	7.84
Methyl ethyl ketone	*u*g/cig	143.3	14.38
Hydrogen cyanide	*u*g/cig	88.9	10.23
Mercury	ng/cig	7.8	0.82
Lead	ng/cig	NQ	NQ
Cadmium	ng/cig	243.0	19.78
Nitric Oxide	*u*g/cig	1409.3	110.69
NOx	*u*g/cig	1434.8	97.85
N-nitrosonornicotine	ng/cig	35.4	2.86
4-(*N*-nitrosomethylamino)-1-(3-pyridyl)-1-butanone	ng/cig	81.0	5.92
N-nitrosoanatabine	ng/cig	21.5	2.12
N-nitrosoanabasine	ng/cig	8.4	0.70
Pyridine	*u*g/cig	224.9	10.70
Quinoline	*u*g/cig	10.5	0.98
Hydroquinone	*u*g/cig	124.5	7.64
Resorcinol	*u*g/cig	NQ	NQ
Catechol	*u*g/cig	89.7	3.64
Phenol	*u*g/cig	242.8	9.81
m+p Cresol	*u*g/cig	62.3	3.77
o-Cresol	*u*g/cig	30.8	2.03
1,3 Butadiene	*u*g/cig	245.1	30.82
Isoprene	*u*g/cig	2282.6	293.53
Acrylonitrile	*u*g/cig	68.3	9.92
Benzene	*u*g/cig	234.7	33.02
Toluene	*u*g/cig	449.1	56.75
Styrene	*u*g/cig	70.4	4.69

B.4 Interview guide for tobacco control stakeholders

INTRODUCTION

- Thank you for participating
- This research involves consultation with key tobacco-control and public health stakeholders, both in Australia and internationally, as well as qualitative research with smokers and non-smokers
- The objective is to assess the public health value of disclosing cigarette ingredients and emissions data

Seek permission to record discussion. Mention that you will be asking at the end of the discussion for permission for comments to be attributed, and ask that the interviewee feel free to flag any comments as "off the record".

- Discussion likely to take around 45 minutes, although happy to discuss issues at greater length if desired

Your role

- To begin with, could you please provide a brief overview of your current position and responsibilities, and your areas of expertise and interest in tobacco control?

DISCLOSED CIGARETTE INGREDIENTS

Your use of disclosed cigarette ingredients data

[Show a sample of the ingredient data: by-brand variant list of ingredients; composite list of tobacco ingredients; and composite list of non-tobacco ingredients.]

- Have you ever accessed the disclosed cigarette ingredients data? If so, when, and what led you to access it?
- What use did you make of it? How useful was it? Would it be ok if we obtained a copy of the document in which it was used? [If yes] Do you mind if this document is passed on to the Department of Health and Ageing?

Others' use of disclosed cigarette ingredients information

- Do you know whether your colleagues or others working in the field of tobacco control used the cigarette ingredients data? How useful is the data for experts?
- Are there any groups for whom you think it is particularly useful to have access to cigarette ingredients data? Who? Why?
- Do you think that the data as they are currently disclosed meet the needs of that group/those groups? Why/why not?

Comprehensibility and accuracy of disclosed cigarette ingredients data

- How accurate do you feel the disclosed data are? What makes you say that?
- How complete or comprehensive is the information? Do you feel that anything is missing? What?
- To what extent does the disclosed information make it clear why specific ingredients (additives) are added to tobacco? Should it be made clearer? Why/why not?
- How easy is the disclosed cigarette ingredient information to understand? Do you feel that the information can be understood by experts? What about non-experts or general members of the public?
- How do you think that the data are likely to be interpreted by non-experts? To what extent do you feel that there is potential for misinterpretation?
    - Do you think that the disclosure of ingredients has an impact on people's perception of the safety or the danger of smoking tobacco?
    - To what extent do you think that the list of ingredients would be seen as comprehensive by members of the public?
- What things, if any, could potentially make the disclosed data more comprehensible?

Effects of use of disclosed cigarette ingredients information

- What effect do you think the disclosed information may have on the public's perceptions of the health risks of smoking? Do you feel that it may have any impact on the attitudes or behaviours of smokers or non-smokers?

Perceived importance and value of disclosing cigarette ingredients information

- Should cigarette ingredient data be disclosed? Why/why not? How important do you feel it is to disclose the information?
- Are there any risks in making this information available to members of the public? Are there any benefits?
- Whose responsibility do you think it should be to disclose this information?
- From a public health perspective, what do you think is the value of disclosing cigarette ingredients data in its current form? To what extent do you think that the disclosure of ingredients data contributes to promoting and protecting the health of Australians?

EMISSIONS DATA

Your use of disclosed emissions data

Show a printout of the emissions data drawing attention to the range of emissions and the two methodologies: standard and intensive.

- Have you ever accessed the disclosed cigarette emissions data? If so, when? What led you to access it?
- What use did you make of it? Was it useful? Would it be ok if we obtained a copy of the document in which it was used? [If yes] Do you mind if this document is passed on to the Department of Health and Ageing?

Others' use of disclosed emissions information

- Do you know whether your colleagues or others working in the field of tobacco control used the emissions data? How useful is the data for experts?
- Are there any groups for whom you think it is particularly useful to have access to tobacco emissions data? Who? Why?
- Do you think that the emissions data as they are currently disclosed meet the need of that group/those groups? Why/why not?

Comprehensibility and accuracy of disclosed emissions data

- How accurate do you feel the disclosed data are? What makes you say that?
- How complete or comprehensive is the information? Do you feel that anything is missing? What?
- How easy is the disclosed cigarette emissions information to understand? Do you feel that the information can be understood by experts? What about non-experts or general members of the public?
    - Do the cigarette ingredients data and the emissions data differ in terms of their comprehensibility? Is one easier to understand than the other? In what ways?
- How do you think that the data are likely to be interpreted by non-experts? To what extent do you feel that there is potential for misinterpretation?
    - Do you think that the disclosure of emissions has an impact on people's perception of the safety or the danger of smoking tobacco?
    - To what extent do you think that the emissions data would be seen as comprehensive by members of the public?
- What things, if any, could potentially make the disclosed data more comprehensible?

Effects of use of disclosed emissions information

- What effects do you think that the disclosed data may have on the public's understanding of the chemicals in cigarette smoke?
- What effect do you think the disclosed information may have on the public's perceptions of the health risks of smoking? Do you feel that it may have any impact on the attitudes or behaviours of smokers or non-smokers?

Perceived importance and value of disclosing cigarette emissions data

- Should cigarette emissions data be disclosed? Why/why not? How important do you feel it is to disclose the information?
- Are there any risks in making this information available to members of the public? Are there any benefits?
- Whose responsibility do you think it should it be to disclose this information?

- From a public health perspective, what do you think is the value of disclosing cigarette emissions data in its current form? To what extent do you think that the disclosure of emissions data contributes to promoting and protecting the health of Australians?

Voluntary Agreement vs. regulation

- What do you think are the strengths and weaknesses of the current Voluntary Agreement?
- For emissions and ingredient disclosure, what do you think are the relative advantages and disadvantages of regulated versus voluntary disclosure? Do you think disclosure should be regulated?
- What are the options for managing disclosure in the future? And which option would be the best?

Location and accessibility

- The disclosed data has been provided on the Department of Health and Ageing website. How accessible do you think that the data is at this location?
- Ideally, where you think the data should be located/how should the information be made available to the public? What would be the advantages/disadvantages of this strategy?
- If the information continues to be provided on the website, should each year's data remain on the website (i.e. should historical data continue to appear on the website)?

CLOSING

- Thank you. We greatly appreciate your time and participation in this research.
- Are there any other comments you want to make/issues you want to discuss?
- Are you happy for your comments to be attributed to you/your organisation?
- Are there any other stakeholders whom you feel we should be interviewing as part of this consultation process? [Record contact details.]

B.5 Letter to tobacco control stakeholders

Australian Government
Department of Health and Ageing

Name Fields
Job title
Organisation
Address Line 1
Address Line 2
SUBURB STATE/TERR POSTCODE

Dear Colleague,

Qualitative research to assess the public health value of disclosed cigarette ingredients and emissions data; request for input

On the basis of a Voluntary Agreement signed by the Australian Government and the three major Australian tobacco companies in 2000, these companies disclose cigarette ingredients on an annual basis. Under the terms of the Agreement, the data are provided to the Department of Health and Ageing and published on the Departmental website without modification. In the spirit of the Agreement, a one-off provision of emissions data was provided for selected brand-variants in 2001. The Department is seeking to assess the actual and potential public health value of the tobacco ingredient and emissions data as it is currently disclosed.

Accordingly, the Department has commissioned the Ipsos-Eureka Social Research Institute to conduct qualitative research. One component of this research will be a series of group discussions and interviews with smokers and non-smokers. In addition, a process of consultation will be undertaken to gather feedback from key stakeholders in the fields of tobacco control and public health. I am writing to invite and encourage you and/or your representatives to participate in this important exercise.

The Department's aim is to determine whether there is an identifiable public health benefit from the disclosure of cigarette ingredients and emissions data. More specifically, the Department would appreciate your views and commentary in relation to the following areas:

- The importance of public disclosure of cigarette ingredients and emissions
- The comprehensibility of disclosed cigarette ingredients and emissions data, and the potential for the data to be misinterpreted

- The accuracy and completeness of the information
- The location and accessibility of disclosed information and where people expect to find information on emissions and ingredients
- The ways in which disclosed information is used, and the extent of that use
- The effects that this disclosed information has on perceptions of the health risks of smoking and on understanding of the chemicals in cigarette smoke
- The extent to which the disclosure of this information contributes to promoting and protecting the health of Australians
- The strengths and weaknesses of the current Voluntary Agreement
- Possible replacement of the Voluntary Agreement with regulation governing the disclosure of information
- How disclosure could or should be managed in the future

A number of stakeholders will be approached for comment. However, any suggestions with regard to the inclusion of specific stakeholders would be appreciated. Should you wish to do so, please advise Jenny Crawford of Ipsos-Eureka on 02 9519 2021.

Ipsos-Eureka will try to contact you in the next few days to arrange a suitable time to discuss these issues with you.

The findings from this research will inform elements of the Ministerial Council on Drug Strategy (MCDS) Study, which will examine the feasibility of formal disclosure of ingredients in tobacco products.

Your involvement will be invaluable for assessing the public health benefits of the disclosure of tobacco products ingredients and emissions data, and to help inform national and international policy debate in this area.

Yours sincerely,

Penny Marshall
Director
Tobacco and Drug Prevention Section
September 2008

B.6 Overview of cigarette ingredients and emissions disclosure

OVERVIEW OF CIGARETTE INGREDIENTS AND EMISSIONS DISCLOSURE

CIGARETTE INGREDIENTS

The Department of Health and Ageing negotiated a Voluntary Agreement for the Disclosure of the Ingredients of Cigarettes with the three tobacco companies, Philip Morris Limited (PML), British American Tobacco Australia Limited (BATA) and Imperial Tobacco Australia Limited (ITA). The Voluntary Agreement was signed by the former Minister for Health and Aged Care, Dr Michael Wooldridge, and the three companies on 20 December 2000.

Under the Agreement, the companies provide annual reports to the Government regarding the ingredients of cigarettes. The data are posted unmodified on the Departmental website, with current data replacing the previous annual cigarette ingredient report.

Cigarette ingredient data were first posted on the Department's website in mid-2000. The 2008 data have been received by the Department but are yet to be posted.

The Voluntary Agreement requires manufacturers to disclose the following:

- **by-brand variant lists of ingredients**. Ingredients are listed in descending order by weight.
- **composite lists of tobacco ingredients** including flavourings, in alphabetical order. Ingredient quantities are listed as a percentage of product weight. Each ingredient's function (filler, flavour, humectant, preservative, binder etc) is also listed.
- **composite lists of non-tobacco ingredients** are provided for the following non-tobacco components: cigarette paper, sideseam adhesive, monogram ink/die print ink, tipping / filter adhesives, filter papers / plugwrap papers, filtration materials. For each non-tobacco component, the ingredients are listed in alphabetical order. Ingredient quantities are listed as a percentage of product weight.

The disclosure does not include:

- cigarettes manufactured by a third party and sold in Australia by Australian manufacturers;
- cigarettes imported into Australia by other companies who are not Australian cigarette manufacturers, eg. Swedish Match;
- roll-your own tobacco and cigars.

www.health.gov.au/tobacco

CIGARETTE EMISSIONS

A separate agreement for emissions disclosure was not negotiated with the tobacco manufacturers. The three tobacco manufacturers undertook cigarette emissions testing of selected Australian cigarette brand variants on a one-off basis and supplied the results to the Department within the spirit of the existing Voluntary Agreement for the Disclosure of Ingredients of Cigarettes. The cigarette emissions data were provided to the Department in 2001 and were posted unchanged on the Department's website on 16 January 2002.

PML, BATA and ITA provided emissions yield data for the following brands which, in 2001/2002, represented approximately 60% market share:

- **Philip Morris Brands:** Longbeach Mild, Longbeach Ultra Mild, Longbeach Super Mild, Peter Jackson Ultra Mild, Peter Jackson Super Mild, Peter Jackson Extra Mild
- **British American Tobacco Australia:** Holiday 8 Super Mild HP, Benson & Hedges Special Filter, Benson & Hedges Extra Mild, Winfield Super Mild KS HP, Winfield Extra Mild 25 HP, Winfield Filter KS HP
- **Imperial Tobacco Australia:** Horizon Mild, Horizon Super Mild, Horizon Ultra Mild

Yields were derived for approx 40 smoke constituents, including ammonia, aminonapththalene, benzoapyrene, formaldehyde, acetaldehyde, acetone, acrolein, mercury lead, cadmium, and hydrogen cyanide. Tar, nicotine, and carbon monoxide yields are also provided.

The derived yields were based on independent testing by Labstat International utilising the ISO 3308 standard methodology and an intensive method.

Labstat International Inc. is an organisation recognised as an accredited testing laboratory by Standards Council of Canada, and complies with the requirements of International Organization for Standardization/IEC Guide 25.

The category 'Standard ISO' refers to tests conducted in accordance with the smoking machine method specified in ISO 3308:1991. A similar method was used in determining the average tar, nicotine and carbon monoxide yields per cigarette which, until 2006, had been printed on the side of cigarette packs.

The category 'Intensive' refers to tests conducted using increased puff volumes, decreasing intervals between puffs, and blocking all ventilation holes (which are used in some low yield brands to reduce tar and nicotine).

The tobacco manufacturer agreed statement accompanying the emissions data on the Department's website states that "Neither method of testing is designed to nor can it accurately represent the yields that any particular smoker may receive. The amount of smoke inhaled by a smoker from each cigarette will depend both on the brand and smoker's smoking behaviour. A smoker taking larger and more puffs more frequently will increase the amounts of tar, nicotine, carbon monoxide and other smoke constituents from the cigarettes. Blocking ventilation holes with tape can result, and blocking some holes with fingers or mouth may result, in smokers receiving higher yields of tar, nicotine and carbon monoxide and other smoke constituents from lower tar cigarettes that have ventilation holes."

www.health.gov.au/tobacco

C

APPENDIX C: CONTACT DETAILS

For any questions in relation to this report, please contact Jenny Crawford. Contact details are provided below.

Specifications	Details
Company	Ipsos-Eureka Social Research Institute
Contact Person	Jenny Crawford
Contact Person Title	Director
Telephone	(02) 9900 5100 or 0412 008 132
Email	jenny.crawford@ipsos.com.au
Mailing address	Level 13, 168 Walker Street, NORTH SYDNEY NSW 2060

Ipsos-Eureka
Social Research Institute