



Prince George Air Quality Management Plan – Phase II Update

April 2009 (May 26, 2009)



Outline

- Phase II Overview
- Quarterly Phase II Work Plan Review
 - April 2009 (deferred), July 2009, October 2009
 - Review completed & implemented recommendations
 - Establish priorities and timelines for recommendations partially implemented or not implemented



Phase II Overview

- Adopted by PGAIR in 2006
- Bridge between Phase I and Phase III
- Objectives
 - Achieve and maintain acceptable air quality by reducing emissions of critical air contaminants
 - Prevent future air quality problems from developing



Phase II Overview (ctd)

- 42 recommendations
 - 30 PGAIR/PGAQIC
 - 12 MTFAQ (some overlap with PGAIR recommendations)
- Many recommendations identify number of management actions



Phase II Overview (ctd)

- Recommendations
 - Odour (1)
 - Fine Particulate Matter (PM) – Road Dust, Industrial (9)
 - Community & Regional Planning (3)
 - Prevention of Air Quality Problems (8)
 - Management of Poor Air Quality Episodes (2)
 - Open Burning (4)
 - Wood Burning Appliances (4)
 - Greenhouse Gases (2)
 - Monitoring & Research (5)
 - Administration (3)
 - Other (new PM reduction target) (1)



Phase II Work Plan Review – Overview

- Recommendations completed & implemented: 7 (17%)*
- Recommendations partially implemented: 30 (71%)*
- Recommendations not implemented: 5 (12%)

* Some recommendations are ongoing (e.g. R14, R16, RM14, RM15, R25, etc.) so are categorized as “partially implemented” rather than “implemented”, although specific management actions have been completed (e.g. R14 – 2008 anti-idling campaign; R16 – AQ101; RM15 – EAWG formation; R25 – 2008 wood stove exchange program, etc.)

Phase II Work Plan Review – Overview (ctd)

| Category | Total Recs. | Implemented* | | Partially Implemented* | | Not Implemented | |
|----------------------------------|-------------|--------------|------------|------------------------|------------|-----------------|------------|
| | | Count | Percentage | Count | Percentage | Count | Percentage |
| Odour | 1 | 0 | 0% | 1 | 100% | 0 | 0% |
| Fine PM – Road Dust | 7 | 3 | 43% | 3 | 43% | 1 | 14% |
| Fine PM – Industrial | 2 | 0 | 0% | 2 | 100% | 0 | 0% |
| Community & Regional Planning | 3 | 1 | 33% | 2 | 67% | 0 | 0% |
| Prevention of AQ Problems | 8 | 1 | 13% | 6 | 75% | 1 | 13% |
| Management of Poor AQ Episodes | 2 | 0 | 0% | 2 | 100% | 0 | 0% |
| Open Burning | 4 | 0 | 0% | 4 | 100% | 0 | 0% |
| Wood Burning Appliances | 4 | 0 | 0% | 4 | 100% | 0 | 0% |
| Greenhouse Gases | 2 | 0 | 0% | 2 | 100% | 0 | 0% |
| Monitoring & Research | 5 | 1 | 20% | 2 | 40% | 2 | 40% |
| Administration | 3 | 1 | 33% | 2 | 67% | 0 | 0% |
| Other (new PM reduction targets) | 1 | 0 | 0% | 0 | 0% | 1 | 100% |
| Total | 42 | 7 | 17% | 30 | 71% | 5 | 12% |

Phase II Work Plan Review – Overview (ctd)

| Project Team Member Responsibility | Total Responsible Recs. | Implemented | | Partially Implemented | | Not Implemented | |
|------------------------------------|-------------------------|-------------|------------|-----------------------|------------|-----------------|------------|
| | | Count | Percentage | Count | Percentage | Count | Percentage |
| PGAIR* | 27 | 1 | 4% | 21 | 78% | 5 | 18% |
| RWG | 5 | 0 | 0% | 5 | 100% | 0 | 0% |
| MWG | 2 | 1 | 50% | 1 | 50% | 0 | 0% |
| EAWG | 2 | 0 | 0% | 2 | 100% | 0 | 0% |
| City of PG | 21 | 4 | 19% | 16 | 76% | 1 | 5% |
| RDFFG | 11 | 0 | 0% | 11 | 100% | 0 | 0% |
| MOE | 10 | 1 | 10% | 7 | 70% | 2 | 20% |
| MOTI | 3 | 1 | 33% | 2 | 67% | 0 | 0% |
| Industry | 3 | 0 | 0% | 3 | 100% | 0 | 0% |
| Chamber of Commerce | 2 | 0 | 0% | 2 | 100% | 0 | 0% |
| Other | 2 | 0 | 0% | 1 | 50% | 1 | 50% |
| UNBC | 1 | 1 | 100% | 0 | 0% | 0 | 0% |

Phase II Work Plan Review – Overview (ctd)

| Month | PGAIR Meetings | Administration | External | R09: Industrial PM Emissions Research | R14: Anti-Idling Program | R16: Public Awareness | R25: Wood Stove Exchange Program | R28: Monitoring (MWG, NHA) | Other Recommendations |
|-------|---------------------------------|--|---|---|---|---|--|------------------------------|---|
| Jan | | | | RWG: Spagnol Revisions | | | | | |
| Feb | | Membership | EC Rail Group mtg | RWG: Spagnol Revisions, Review | | EAWG: Membership Campaign | BIS Workshop | | |
| | | EWAG mtg MWG mtg | MOE North Nechako mtg | Ctte: Synthesize Results | | EAWG: Budget, Projects | Exchange Program Launch | | |
| Mar | Budget (Nov-Jan) | Insurance, WCB, CRA DUE | PGAIR Pres.: SGOG | RWG: Review | | | | | R5: MOTI road dust update |
| | | MWG mtg | Clean Air Forum (YVR) | Ctte: Synthesize Results, Develop Matrix | | Exchange Program | | | R11, 17, 18: Air Quality Advisory review |
| | | RWG mtg Membership (Ctte) | BCLA Conference (Van.) | | | | | | |
| Apr | | | | RWG: External Review mtg | | | BIS Workshop | | R01: Odour Study Update |
| | | | | Ctte: Synthesize Results, Develop Matrix | | Ctte: AQ Warning Light | Home & Garden Show Exchange Program | | R19, 20, 23: Clean Air Bylaw Revision Pres. |
| May | Budget (Feb-Apr) | MOE Funding Proposal DUE | MOE Woodstove reg. Comments DUE | RWG: External Review | | | | | R19, 20, 23: Clean Air Bylaw Comments DUE |
| | Phase II Review | | Bike to Work Week | Ctte: Review approach | | Ctte: AQ Warning Light | Program Update DUE (MHLS) | | R11, 17, 18: Air Quality Advisory update |
| Jun | Membership Ctte recommendations | Exec mtgs: City, RDDFG, CN MWG mtg (budget) | PGAIR pres/update: City | RWG: External Review, Review, Spagnol Revisions | AI Campaign & monthly report | EAWG: Clean Air Week | Program Evaluation DUE (BCLA) | MWG: Mobile Mon. Proposal(s) | |
| | Fundraising Update | Membership (Ctte) | PGAIR pres/update: RDDFG | Ctte: Develop/Revise Matrix | | EAWG: BCLA Forum | 2010 Funding Proposal DUE | | |
| | | Bylaw revisions | | | | Ctte: AQ Warning Light | | | |
| Jul | | MWG Invoices | | RWG: Spagnol Revisions | AI Campaign & monthly report | EAWG: Summer Newsletter | | | |
| | | Bylaw revisions | | Ctte: Develop/Revise Matrix | | Ctte: AQ Warning Light | | | |
| | | Work review | | | | | | | |
| Aug | Budget (May-Jul) | Bylaw revisions | | RWG: Spagnol Revisions | AI Campaign & monthly report | Ctte: AQ Warning Light | | | |
| | Phase II Review | | | Ctte: Develop/Revise Matrix | Emissions Clinic | | | | |
| Sep | AGM | Annual Report DUE | | Ctte: Develop Targets | AI Campaign & monthly report | EAWG: Annual Report (AGM) | | | |
| | Backgrounder | City Request for Funds DUE | | | | | | | |
| | City, RDDFG attend | | | | | | | | |
| Oct | | | | Ctte: Develop/Revise Targets; Public Review & Comment (Framework) | AI Campaign & monthly report 2010 Funding Proposal DUE | EAWG: Fall Newsletter EAWG: Public Symposium | BIS Workshop | | |
| | Budget (Aug-Oct) | | | Ctte: Develop/Revise Targets | AI Campaign & monthly report | | | | |
| Nov | Phase II Review | | | | | | | | |
| | | | | | | | | | |
| Dec | | | PGAIR update: City PGAIR update: RDDFG | Ctte: Finalize Report | AI Campaign & monthly report | | | | |



Recommendations Completed & Implemented

- 7 recommendations completed & implemented
- Review completed & implemented recommendations (refer to work plan) and confirm no other management actions are required in short, medium or long term as part of Phase II

Recommendations Completed & Implemented

| Rec. No. | Category | Recommendation |
|----------|-------------------------------|--|
| 2 | PM – Road Dust | <i>City expand its program to use winter abrasives that generate less fine PM</i> |
| 3 | PM – Road Dust | <i>City and MOTI conduct early sweep (late Feb/early Mar) of arterial roads</i> |
| 8 | PM – Road Dust | <i>City require paving (or use of other materials that decrease dust) of all traffic areas permitted for new or redeveloping industrial, commercial developments</i> |
| 12 | Community & Regional Planning | <i>UNBC, City conduct airshed boundary study to assist with determining AQ effects from open burning and other pollution sources within and outside City</i> |
| 13 | Prevention of AQ Problems | <i>MOE evaluate acceptability of new sources of air contaminants (esp. PM10, PM2.5, TRS, SO2, NOx) based on use of 'lowest achievable discharge rate'</i> |
| 29 | Monitoring & Research | <i>Monitoring Working Group to upgrade equipment as planned</i> |
| M4 | Administration | <i>PGAIR establish a paid coordinator position to facilitate and support air quality management structure</i> |

Recommendations Partially Implemented

- 30 recommendations partially implemented
- Review recommendations partially implemented (refer to work plan) and:
 - Determine priority categories and/or recommendations and/or management actions;
 - Determine whether other management actions are required in short, medium or long term
 - Determine or confirm timelines for management actions

Recommendations Partially Implemented

| Rec. No. | Category | Recommendation |
|----------|-------------------------------|---|
| 1 | Odour | <i>PGAIR work with Research Working Group to prepare an odorous emission inventory that can be used to identify source contributions</i> |
| 4 | PM – Road Dust | <i>City do more frequent sweeping of municipal streets and additional dust control on unpaved high traffic routes to further reduce dust levels</i> |
| 5 | PM – Road Dust | <i>MOTI implement road dust reduction measures on provincial highways within City</i> |
| 6 | PM – Road Dust | <i>Property owners of Willow Cale Rd set schedule for hard surfacing the portion of road between Penn Rd and Boundary Rd</i> |
| 9 | PM – Industrial | <i>Complete Source Identification and Apportionment Study to further define priorities for reducing industrial and non-industrial emissions</i> |
| M38 | PM – Industrial | <i>PGAIR and Research Working Group assess results of studies currently underway to understand PM and TRS and use them to guide production of Phase III Air Quality Management Plan</i> |
| 10 | Community & Regional Planning | <i>AQ considerations be incorporated into PG Official Community Plan (incl. transportation efficiency and alternative transportation) and into Regional District Community Plans during next plan reviews</i> |
| 11 | Community & Regional Planning | <i>Local government designate land as needed for heavy industry to direct future air pollutant sources and distinguish significant and insignificant sources via land use designations and/or zoning categories</i> |

Recommendations Partially Implemented (ctd)

| Rec. No. | Category | Recommendation |
|----------|--------------------------------|---|
| 14 | Prevention of AQ Problems | <i>PGAIR, City promote reductions in vehicle emissions (e.g. anti-idling campaign) and request EC to conduct diesel mobile emission-testing</i> |
| M32 | Prevention of AQ Problems | <i>MOE, City, PGAIR investigate instituting a zero net cost Air Care program in Prince George for gasoline and diesel vehicles</i> |
| 15 | Prevention of AQ Problems | <i>City incorporate air quality issues into its transit decision-making</i> |
| 16 | Prevention of AQ Problems | <i>PGAIR develop and promote public awareness and education of AQ issues</i> |
| M14 | Prevention of AQ Problems | <i>Coordinator organize public education and awareness programs, funding initiatives and related tasks (may coordinate with community groups, government and educational institutions)</i> |
| M15 | Prevention of AQ Problems | <i>Education and Awareness Working Group be added to PGAIR to ensure community education and awareness is ongoing priority and help implement recommended education programs and events; BC Lung Association be invited to be a member of the working group</i> |
| 17 | Management of Poor AQ Episodes | <i>MOE require owners of the most significant fine PM sources to provide plans for temporarily reducing emissions during AQ advisories</i> |
| 18 | Management of Poor AQ Episodes | <i>Feasibility of predicting fine PM episodes be analyzed by Research Working Group and any feasible methods be suggested to PGAIR for implementation</i> |

Recommendations Partially Implemented (ctd)

| Rec. No. | Category | Recommendation |
|----------|-------------------------|---|
| 19 | Open Burning | <i>City ban all open burning including yard and garden waste, noxious materials, land clearing and logging debris on all properties in City</i> |
| 20 | Open Burning | <i>City ban recreational fires on all properties in City</i> |
| 21 | Open Burning | <i>RDFFG continue to advise residents of hazards of open burning and availability of facilities to reuse, compost or dispose of burnable materials</i> |
| 22 | Open Burning | <i>Develop strategies to reduce open burning of Mountain Pine Beetle and land clearing debris in areas surrounding City</i> |
| 23 | Wood Burning Appliances | <i>City promote the proper use of wood burning appliances in City and enforce any nuisance caused by wood burning</i> |
| 24 | Wood Burning Appliances | <i>RDFFG require any new or replacement wood burning appliance meet the standards in the BC Solid Fuel Burning Domestic Appliance Regulation</i> |
| 25 | Wood Burning Appliances | <i>City and RDFFG provide public education on wood burning appliances, upgrade programs (stove exchange) incentives, and Bylaw implications</i> |
| M7 | Wood Burning Appliances | <i>PGAQIC work with City, RDFFG, provincial government to provide incentives to remove older wood burning appliances and “Burn it Smart” and other educational initiatives on clean burning on an ongoing basis</i> |

Recommendations Partially Implemented (ctd)

| Rec. No. | Category | Recommendation |
|----------|-----------------------|--|
| 26 | Greenhouse Gases | <i>City complete all Milestones of the Partners for Climate Protection Program</i> |
| 27 | Greenhouse Gases | <i>RDDFG continue to advance its Landfill Gas Management Plan to pursue beneficial use options of landfill gas</i> |
| 28 | Monitoring & Research | <i>Research Working Group review published literature (e.g. MOE PM2.5 study, UNBC research projects, projects leading to reduction in industrial emissions) on health and air quality, and, if appropriate, assist in any work being conducted</i> |
| M35 | Monitoring & Research | <i>PGAIR and Monitoring Working Group pursue adding a mobile monitoring unit to the current monitoring system</i> |
| M7 | Administration | <i>PGAIR include measurable outcomes and timelines in its management plans</i> |
| M19 | Administration | <i>PGAIR hold annual public forum and open all meetings to the public for observation, and provide mechanism to receive input and comments from the public at all times</i> |
| GAP | Locomotives | <i>Encourage use of biodiesel and petroleum diesel (obtain results from EC testing of Southern Railway of BC); install diesel oxidation catalysts on locomotives (EC experimenting w/ Translink)</i> |



Recommendations Not Implemented

- 5 recommendations not implemented
- Review recommendations not implemented (refer to work plan) and:
 - Determine whether management actions required;
 - Determine whether recommendation/management actions are required in short, medium or long term
 - Confirm or determine timelines

Recommendations Not Implemented

| Rec. No. | Category | Recommendation |
|----------|---------------------------|--|
| 7 | PM – Road Dust | <i>Establish a schedule for hard surfacing all gravel roads in the vicinity of BCR Industrial Way (PGAIR, BCR Property Owners, City)</i> |
| M17 | Prevention of AQ Problems | <i>PGAIR include public education and community engagement as part of Phase III AQ Management Plan to ensure outreach is extensive and ongoing</i> |
| M34 | Monitoring & Research | <i>Maintain or (as needed) add to current monitoring network. PGAIR become involved in MOE review of the Provincial monitoring network to ensure reviewers have specific information about PG situation before making decisions regarding local monitoring network</i> |
| M37 | Monitoring & Research | <i>PGAIR and MOE work together to formalize procedure to include significant polluters that do not require MOE permit in the Monitoring Working Group</i> |
| New | Other | <i>PGAIR to work with all PM emission sources to reduce PM10 and PM2.5 shown (by modeling and other studies) to have significant impact on ambient AQ. 2- and 5-year voluntary reduction targets to be set for significant sources; priority to be given to those that do not use BAT (per MOE 2008 Interim Policy). Targets should achieve provincial PM2.5 objectives by Dec. 31/13: 24 hr avg $\leq 25 \mu\text{g}/\text{m}^3$; and continuous improvement target of $6 \mu\text{g}/\text{m}^3$ (annual avg). If ambient targets not met by Dec. 31/13, PGAIR to recommend other strategies to reduce significant PM sources. By Dec 31/16, following should be achieved: 40% reduction on all significant emission sources (aspirational target); and $5 \mu\text{g}/\text{m}^3$ of ambient PM2.5 (annual avg).</i> |

PRINCE GEORGE



IMPROVEMENT
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