water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

aurecon

MINUTES OF MEETING

First Algoa Reconciliation Strategy Steering Committee Meeting

Held on 8 September 2011
At the offices of Aurecon, Port Elizabeth

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1.	**WELCOME** The chairman, Mr Johan van Rooyen welcomed everybody to the meeting		
2.	**ATTENDANCE AND APOLOGIES**		
	Attendance		
	Mr Johan van Rooyen (Chair)	DWA: NWRP	JvR
	Ms Isa Thompson	DWA: NWRP (S)	IT
	Mr Archington Thobejane	DWA: NWRP (S)	AT
	Ms Busi Tshabalala	DWA: WUE	BT
	Ms Celiwe Ntuli	DWA: WRPS	CN
	Mr Ashley Starkey	DWA: Act CD: ECR	AS
	Mr Dewald Coetzee	DWA: NWRI: Southern Operations	DC
	Ms Siziwe Blie	DWA: DD:IE	SB
	Mr Andrew Lucas	DWA: Water Quality Management	AL
	Mr Theo Geldenhuys	DWA: CE: Water Resources Management	TG
	Mr Barry Martin	NMBM	BM
	Mr Pierre Joubert	Gamtoos IB	PJ
	Ms Rienette Colesky	Gamtoos IB	RC
	Nosipho Shange	EC Dept of Human Settlements	NS
	Mr Harms du Plessis	Lower Sundays IB	HdP
	Mr Angus Clark	Nelson Mandela Bay Business Chamber	AC
	Mr Dup van Reenen	AfriCoast Engineers SA	DvR
	Mr Erik van der Berg	Aurecon	EvdB
	Ms Reina Zastron	Aurecon	RZ
	Apologies		
	Mr Peter van Niekerk	DWA: CD: IWRP	
	Mr Solly Mabuda	DWA: CD: IWRP	
	Mr Menard Mugumo	DWA: OA (S)	
	Mr Paul Herbst	DWA: WUE	
	Dr Beason Mwaka	DWA: WRPS	
	Ms Bolekwa Kama	DWA: CMA Manager	
	Ms Smangele Mgquba	DWA: CC	
	Mr Galelo Mbambisa	DWA: Water Sector Support	

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	Mr Martin Labuschagne DWA: ECRO: WR&U-WUE Mr Stephen Mullineux DWA: DCE: Water Use Regulation Mr Stan Groenewald NMBM Mr Kowie Joubert Prov Dept Agriculture and Land Affairs Mr Zamikhaya Mpulampula SALGA Eastern Cape Mr Hennie van der Kolf Coega IDZ Mr Bogumsa Panda EC Prov Dept of Human Settlement	
3.	**APPROVAL OF AGENDA** The agenda was approved with the following changes: EvdB suggested replacing **8.4** 'Algoa Drought Management Strategy' with 'Algoa Bridging Study'. IT asked that **8.4** Algoa Drought Management Strategy be deleted and **8.5** 'Eradication of alien vegetation' and **9.3** Newsletter be added.	
4.	**PURPOSE OF THE MEETING** JvR reported as background, that reconciliation studies were compiled for all large Metros in South Africa and that the Algoa Strategy was the sixth strategy that was completed. Two more studies will be completed by the end of the year and several other strategies are in process of being compiled. This is also being done for smaller towns. This is the first meeting of the Algoa Reconciliation Strategy Steering committee. The objective of this steering committee is threefold: • To ensure implementation of the recommendations of the Algoa Reconciliation Strategy. This is not only the responsibility of DWA, but also the responsibility of all major stakeholders such as municipalities, irrigation boards, WUAs, relevant government departments etc. • To update the Strategy to ensure that it remains relevant. • To ensure that the Strategy and its recommendations are appropriately communicated. This can take the form of press releases and maybe modern electronic communication which can be explored.	
5. **5.1** **5.2**	**BACKGROUND TO THE RECONCILIATION STRATEGY** **Objective of the Strategy** The objective of the strategy is to ensure that the Algoa Water Supply System (AWSS) has sufficient water of the appropriate quality to ensure sustainable reconciliation of future water requirements in the AWSS for at least a 25-year horizon. **Presentation of the Reconciliation Strategy** EvdB presented a summary of the updated reconciliation strategy, addressing: • Development of the Reconciliation Strategy and update undertaken; • Water requirements; • Potential Interventions available; • Scenario Planning; • Action Plan; and • Public Participation. A graph of historical water use from the Algoa WSS shows that while water use is	

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	inhibited during a drought through the implementation of water restrictions, the water requirements growth trend continues after the drought is broken. A request was made to change the depiction of water use from calendar years to 12-month periods starting in July up till June the following year, to correspond with the NMBM and GIB's financial years.	EvdB
	JvR mentioned that understanding water requirements are important. He said that the committee have to plan for higher requirements in future, but that it is also important to measure current requirements for short term planning. The Coega IDZ future growth must also be taken into consideration, therefore it is essential to understand how the IDZ would/could grow.	
	BM indicated that the updated Water Master plan will be available soon and could be used to answer questions on growth in the Metro. He believes that it has been proven that a drought occurs every 4-5 years in the Metro, and that additional projects to augment supply may need to be implemented as a result. JvR responded that the system analysis undertaken indicate an acceptable assurance of supply and that restrictions should not happen every 4-5 years. He added that the committee should plan for droughts to minimise restrictions. He intimated that the hydrology may need to be revisited to address this uncertainty. The level of assurance of supply to the different user sectors will need to be addressed in detail.	IT
	Two updated water balance Scenarios were presented, to indicate revised implementation conditions for these selected scenarios with the fast-tracking of the Nooitgedagt Low Level Scheme, a groundwater scheme and delay of the Swartkops Desalination Scheme, due to funding limitations and the breaking of the drought.	
	DC mentioned that as a future option, there is more opportunity to increase the system yield by optimising system operation.	
	JvR indicated that one must be careful to include interventions in only some of the scenarios. It is however assuring that desalination of seawater will always be an option to utilise. Different options and different implementation timelines are available for consideration by the committee. A question to consider is when to implement the ecological Reserve for existing supply dams.	DWA
	Regarding groundwater, BM asked that DWA EC RO make any borehole information for Kouga Municipality available.	Ilse Viljoen
5.3	**Presentation of NMBM Drought Measures Implementation** BM gave a presentation on the recent drought and implementation of emergency measures. The year 2008 was the lowest annual rainfall since 1900 in the AWSS area. Droughts have occurred typically about once every 4 years over the last 20 years. He presented a graph showing rainfall since 1900 which indicated a downwards trend. BM explained the drought declaration process that NMBM has followed which started with the establishing of a drought committee in July 2009. The drought disaster was declared in April 2010 and subsequent to this, an application for drought relief funds was made to National Treasury in June 2010. He explained the drought restrictions that were implemented and gave an overview on the drought interventions pursued by the Metro. He presented progress with the drought interventions as follows:	
5.3.1	**Drought Publicity Campaign to reduce water use** NMBM undertook an awareness campaign through the media and radio, erection of display boards, preparation and distribution of leaflets, brochures, decals and posters –	

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	so-called “in-your-face” media. The buy-in of political leadership and support for such a campaign is extremely important. BM stressed that there is a direct link between awareness and water use levels. The campaign cost R30 million which was expensive, but necessary and it was considered successful. Recycled water was promoted for use in construction where appropriate, as well as by industries.	
5.3.2	**Maximisation of the Existing Nooitgedagt Scheme** This entailed the maximum use of the existing scheme to ensure that the maximum quantity of water was put through the system without compromising water quality. This entailed increasing the plant output from 70 to 90 Ml/d. During the drought, the scheme produced up to +/- 93 Ml/d.	
5.3.3	**Fast-tracking Nooitgedagt Low-Level Scheme** An additional allocation of water from the Orange River has been approved by DWA and the EIA for the scheme has been approved by DEDEA. A total of 9 separate contracts were identified to increase the overall plant capacity of Nooitgedagt WTW from 70 to 160 Ml/d. R450 million was approved by National Treasury towards this project. R351 million is still needed to complete the project during the next two financial years. The two pipeline contracts, one electrical contract and Civil Works contract were awarded and have commenced. The outstanding contracts for Reservoir and Pipe Works have closed and are currently being evaluated. It is estimated that the completion of the WTW 3rd Module and rehabilitation and the 45 Ml reservoir at Olifantskop will be completed in February 2013. In additional, the Motherwell to Perseverance bulk water supply pipeline has been completed.	NMBM
5.3.4	**Desalination of Seawater** A 30 Ml/d RO plant to be located at the old Swartkops Power Station near the Swartkops River was identified as the emergency desalination plant. The anticipated total cost of the 30Ml/d desalination plant, including all associated infrastructure is R450 million excluding a sea outfall. The design of the plant is well advanced and the tender documents have been completed. As the drought is broken, the plant will not be constructed. A new location for a bigger desalination plant needs to be investigated. Such a plant would need to be in production by 2017/2018. The cost of such a plant could be R900 million. Funds for the preliminary planning work need to be made available.	NMBM
5.3.5	**Groundwater Scheme** Groundwater can provide affordable, dependable supply with minimal management. Several potential sites were investigated and investigations were based on previous studies undertaken. 6 Production Boreholes were sited and a drilling contract is out on tender for drilling at the Coega Fault.	NMBM
5.3.6	**Water Conservation / Water Demand Management** Water loss detection is aimed at reducing use and wastage. It is a long term initiative and forms part of a 10-year programme as per the IWRMS. There is large water wastage at most of the more than 330 schools in the NMBM area because of poor asset management. The estimated cost of water wastage at schools is at least R90 million annually, but the repairs will only cost R50 million. Leaks are being repaired in private houses as the poor is unable to fund repairs. Level 1 water restrictions were implemented on 1 November 2009 and emergency restrictions with punitive tariffs on 1 February 2010. The new drought tariff structure was	

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	implemented on 1 July 2010.	
5.3.7	**Impofu Dead Storage Abstraction Scheme** The dead storage abstraction is split into 2 Phases (16 000 Ml). For the first 9 000 Ml (Phase 1), a barge with submersible pumps that were used during the previous drought, was ready to be used. The estimated cost for abstracting the last 7000 Ml (phase 2) is R57M. Phase 2 was put on hold due to the high cost of this intervention.	
5.3.8	**Promoting the use of rainwater tanks** A municipal bylaw promoting use of rainwater tanks was recently promulgated and the WC/WDM public awareness campaign recommended increased use of rainwater tanks. JvR recommended that guidelines be drawn up for the effective use of rainwater tanks.	NMBM
5.3.9	**Lessons learnt** BM presented the following lessens that were learned during the drought: • Political buy-in is critical. • All interested and affected parties have to be consulted and kept informed. • Drought implementation options should be considered ito the long-term Water Management Plan to reduce abortive costs. • The drought awareness publicity campaign should not summarily be stopped but should continue as part of the WC/WDM Strategy. • Earlier implementation of future projects inflates water tariffs. • New water sources (i.e. desalination) had to be considered. • Empty dams will have a devastating effect on business, the economy of the Metro and South Africa, and the next round of restrictions would have resulted in more direct job losses. PJ mentioned that the drastic water restrictions on irrigation in the Gamtoos directly led to the loss of about 6 000 permanent and seasonal jobs. AF raised concerns about the funding of all the plans on the table. JvR mentioned that, for the NMBM to be able to implement the plans, the city will be financially overburdened. Many plans are available and in place, but the financing is problematic. A possibility for such finance could be a take-off agreement (the TCTA route). It was noted that TCTA recently had a conference on the approach to desalination plants. It was decided that high level discussions are needed for financing of the plans.	NMBM/ DWA
5.4	**Recommendations from the Strategy**	
5.4.1	**DWA Studies and Activities**	
5.4.1.1	Groundwater Well-field Development The well-field development formed part of the NMBM Emergency Water Plan and will continue. Production boreholes will be drilled and documented. A decision as to when to equip the production holes will be taken later.	NMBM
5.4.1.2	Capping of unused artesian boreholes and monitoring of well-field abstractions and groundwater levels This is the responsibility of DWA. Aurecon was requested to follow up with the EC RO on what has been done to date and report back on the status. DC mentioned that DWA should build capacity to do this and that the regulatory side also needs to be addressed.	Aurecon
5.4.1.3	Kouga Dam raising in light of DWA dam safety work DWA construction activity is planned to start in 2012, to address dam safety measures at Kouga Dam. Liaison is needed with the DWA Dam Safety Directorate (Walter van der Westhuizen and Chris Oosthuizen) to ascertain exactly what will be done and how this	

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	could influence the potential future raising of the dam.	DC/IT
5.4.1.4	Impacts on yields when implementing the ecological Reserve on existing dams and potential Climate Change impacts EvdB commented that the implementation of the Reserve for existing system dams could have severe implications for supply. JvR indicated that water to be released for the Reserve could potentially be replaced by water from a desalination plant if no other option is available. The committee must however ensure that the volumes, timing and quality of water to be released are correct. DvR commented that the implementation of the Reserve has a cost. DC asked for clarification of the decision on the Reserve for Impofu Dam. EvdB clarified that the Comprehensive Reserve study recommended that a once-yearly release of 5 million m^3 be made from the dam for the estuary. DC said that he has not yet been provided with this Reserve approval document. This needs to be obtained from the Directorate: RDM.	IT
5.4.1.5	Operating capacity of Darlington Dam DC mentioned that the required operating level for Darlington Dam needs to be investigated. This could potentially involve the removal of gates, depending on the findings. It needs to be ensured that there are no bottlenecks regarding the transfer of additional Orange River water to NMBM. TG commented that Grassridge Dam will have adequate balancing capacity. The NMBM has written a letter to DWA to enquire whether any restrictions will be placed on water received from Gariep Dam.	DC
5.4.1.6	Additional storage in Scheepersvlakte Balancing Dam TG indicated that, in addition to increasing the balancing capacity of the Scheepersvlakte Balancing Dam, attention must also be given to increasing the supply capacity of the Lower Sundays River Government Water Scheme, i.e. the canal, to cater for the additional allocation to the NMBM, and also for the proposed future development of 3 000ha of irrigation development earmarked for resource-poor farmers in the Barkly Bridge area. DC mentioned that downtime at the canal is currently not possible as there is no storage for the water required. It is important that an operating risk assessment be done urgently.	DC
5.4.1.7	Report on strategies proposed for each area as per the All Towns RSS There is nothing in the All Towns RSS that will impact directly on the Algoa System. IT mentioned that it would be worthwhile to find alternative sources for smaller towns like Jeffrey's Bay to reduce water use of such towns from the AWSS. EvdB mentioned that the groundwater initiative under way by NMBM *inter-alia* addresses this.	
5.4.1.8	WC/WDM: Report on progress per municipality JvR stressed that progress with regards to WC/WDM needs to be measured and reported. Municipalities need to plan how to reduce their water demand and become more efficient. Within the AWSS only the Kouga Municipality will need to be monitored.	ML
5.4.2	**NMBM Studies and activities**	
5.4.2.1	WC/WDM programme: progress, actual savings and unaccounted-for water loss BM gave a presentation on the NMBM WC/WDM programme and progress. The objective of the programme is to reduce water use by a minimum of 25 Ml/day by undertaking repairs to water leaks on municipal water mains and leaks on properties. This was one of the recommendations of the 2005 NMBM Water Management Plan. Key feedback on the programme was the following: ATTP leak repairs (repairs to private plumbing of poor households): By March 2011	

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	2803 ATTPs used on average more than 30 kl/month. To date 11 846 erven have been repaired, with an estimated 26.5 Ml/day to be saved due to repaired infrastructure. Savings are independently verified by the Management System. Schools leak repairs: 384 Schools within NMBM have been inspected, and a priority school report and recommendations were submitted to NMBM and DoE. A Memorandum of Agreement was signed by DoE and NMBM, appointing NMBM as implementing agent for DoE to repair leaks and services at schools. Emergency interventions were undertaken by NMBM at 10 schools for replacement of main water supply infrastructure. A budget for school repairs is being finalised by NMBM and DoE, with DoE to transfer R5 million to NMBM to commence with the project. Repairs could start during Oct/Nov. Zone metering: 168 Zones (districts) were identified, and designs for 31 new installations have been completed. A total of 55 zone meters were replaced. Remote sensing: A GSM link was installed that transfers data to the WC/WDM system, as well as trial remote sensing installations on zone meters. Pressure management: Two trial installations were identified, but has not commenced due to the drought. A PRV field survey report was completed, and PRVs for repair / replacement was identified. Smart pilot control was investigated for current installations. Awareness campaign: Advertising recommenced in newspapers and radio in May, but has now been halted. An accounts insert was disseminated in April. A new door-to-door campaign is being planned. Leak detection and repairs: The implementation team consists of a consultant and two contractors, for leak detection and repair respectively. NRW support structures: A three-tier approach is used for monitoring, namely project meetings for awarded contracts, the NRW technical team and Finance and Water Service meetings. BM offered the following conclusions: • WC/ WDM is a long-term initiative and gains/savings will not be immediately evident. • Funding support is the most critical element. JvR suggested combining the water campaign with the electricity campaign. Links can be made between water and electricity use. AS mentioned the possibility to link the water quality challenges with WC/WDM. DC reminded the meeting that political support is very important. JvR indicated that WC/WDM has now been given a higher priority in the National Water Strategy priority list. JvR congratulated the NMBM with their efforts and success with WC/WDM and urged them to keep up the good work that they are doing, as the benefits will become evident in future.	NMBM
5.4.2.2	Nooitgedagt Low Level Scheme Reported under point 5.3	
5.4.2.3	Comprehensive study on the re-use of water (NMBM and DWA) This study will be addressed in the NMBM Water Master Plan.	
5.4.2.4	Establish gauges to monitor flows and quality of WWTW flows for later possible re-use	

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	schemes These gauges are in place.	
5.4.2.5	Re-use from Fishwater Flats and Coega Wastewater Treatment Plants to supply Coega IDZ with industrial water. This will be addressed in the NMBM Water Master Plan, following on from the feasibility study undertaken. The upgrading of the Fish Water Flats WWTW has been delayed due to NMBM's funding constraints, which is also dependent on the re-use scheme/s being implemented. The Loerie Indirect Re-use Scheme was further conceptualised during the planning of the implementation of the Fish Water Flats to Coega IDZ industrial water scheme, for potential potable indirect re-use.	NMBM
5.4.2.6	Desalination Feasibility Study – Swartkops Estuary Reported under 5.3.4.	
5.4.2.7	Seawater desalination: Coega IDZ This aspect will be covered in the NMBM Water Master Plan.	NMBM
5.4.2.8	The monitoring of seawater quality at potential seawater abstraction points for desalination Monitoring was undertaken at the proposed inlet for the Swartkops Desalination Scheme.	NMBM
5.4.2.9	Options to replace Orange River water in the longer term • Desalination of Sundays irrigation return flows • Purchase of Orange River water irrigation allocations These were identified as long term planning initiatives, with no further discussion.	
5.5	**Steering Committee Composition**	
5.5.1	**Functions and Constitution** JvR asked the committee to study the Draft Terms of Reference for the committee that was circulated and to comment on it. He clarified that the committee can make recommendations but has no executive powers. As the committee is served by knowledgeable people, the recommendations can be quite powerful.	All
5.5.2	**Representatives** JvR requested the representatives of the various government departments to raise awareness of the committee and asked them to urge their colleagues to attend the meeting. The meetings will be held twice per year, usually in March and September. Further potential representation on the Committee is: • NAFCOC; • Environment – perhaps somebody who was involved with the Zwartkops desalination project EIA; • One or two politicians.	All
6.	**ARSS RESPONSIBILITIES AND APPROVAL PER INSTITUTION**	
6.1	**Policies / guidelines to implement to assist the ARSS** Approval of the Strategy by various role players will be part of the agenda in future. Feedback on progress will be given.	

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6.2	**Dissemination of information to stakeholders** Every attendee must convey information from the meeting to their companies and report back at the next meeting.	All
7.	**ADMINISTRATIVE AND TECHNICAL SUPPORT GROUP**	
7.1	**Functions and constitution** This Support Group function and constitution will to be established following the SC Meeting.	
7.2	**Representatives** Representatives need to be nominated. IT will communicate with members from the steering committee to get representation on the Support Group.	IT
8.	**OTHER RELEVANT PROJECTS**	
8.1	**Annual Operating rules** Celiwe Ntuli reported the following: • The annual update was conducted using the recently updated hydrology from the Algoa Bridging Study and the latest information on the Nooitgedagt Low-Level Scheme, using the starting storage as at 20 June 2011. • Results from the analysis indicated that restriction levels will be "violated" from 2012 in the Kouga/Loerie system, assuming the 59 million m^3/a allocation for irrigation, compared to 48 million m^3/a which proved to be more sustainable. • Currently all dams in the system are full and no restrictions are imposed. • Monthly monitoring of the system performance is on-going. The actual use for both irrigation and domestic use during June and July was below projected values due to wet conditions and a slow return to normal demands after restrictions. PJ asked that, whilst the Kouga Dam is overflowing, whether the irrigators can take more water from the dam without this water being part of their quota for the year. JvR indicated that this must be referred to the Operating Committee to do a risk assessment and make a recommendation. He asked Celiwe to do a run with current data. PJ wanted to clarify the fact that the Kouga allocation is 59 million m^3/a and not 48 million m^3/a. On this issue DC responded that if more than 48 million m^3/a is used, the allocation can run into restrictions. The 48 million m^3/a is at an assurance of supply of a failure only once in 50 years, whereas the 59 million m^3/a is at a much lower assurance of supply.	CN
8.2	**Drought operating rules for stand-alone dams** CN reported that Groendal Dam is the only dam within the Algoa system that was analysed as a stand-alone dam, although it forms part of the bigger Algoa system. It is operated as a stand-alone dam and the operating rules were analysed as such. It was agreed that in future meetings this item would be discussed as part of item 8.1 Annual Operating Rules.	
8.3	**Water availability assessment – Kouga-Loerie and Churchill-Impofu** The hydrology of these systems needs to be updated and a major study needs to be done soon. This could go out to tender before the end of the financial year according to IT. PJ indicated that the Gamtoos area is in the same position. The irrigators need to apply for water use licences and their use needs to be measured. TG reported that the Langkloof irrigators are in the process of establishing a water users	IT

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	association. As soon as this has been established, they must be represented at the SC meeting. Steven Mullineux will keep the meeting informed.	SM
	TG also reported that a verification and validation study of the Langkloof area will be put to tender in approximately 20 months. AL noted that the Langkloof and SRVM both experience pollution problems due to poor effluents from WWTWs.	AL
8.4	**Algoa Bridging Study** The Algoa Bridging study was completed and findings were incorporated in subsequent studies.	
8.5	**Eradication of Alien Vegetation** PJ noted that farmers use land that was cleared for irrigation and thus use more water. DC reminded the meeting of existing historical information that could be used.	
9.	**COMMUNICATION**	
9.1	**Status Report** A Status Report will be compiled describing what has happened since the Algoa reconciliation Strategy was completed and will be disseminated to all attendees soon after the meeting for inputs and distribution to their respective management committees.	EvdB
9.2	**News Release** The Status Report will form the basis of the press release. The press release will be circulated for comments.	EvdB
	JvR asked the committee to consider other avenues to be used for direct communication to the public, such as modern communication technology.	All
	BM warned that the question always to be answered is whether you have consulted sufficiently. There must always be a paper trail to back up information and actions. A database of people/organisations to which an annual newsletter can be sent needs to be compiled.	
	HduP mentioned that they have an e-mail group in their area of mostly farmers to whom they send e-mails with any water related information like rainfall figures etc. The committee could consider doing the same with the newsletter.	RZ
	AL suggested doing a press release during a breakfast for the media. JvR will communicate with him to confirm a date for such a session.	JvR
10.	**GENERAL** No discussion.	
11.	**NEXT MEETING** The next meeting will take place on 15 March 2012.	
12.	**CLOSURE** The meeting was adjourned at 2:15pm.	