<table>
<thead>
<tr>
<th>Title</th>
<th>Abstract</th>
<th>Conference Name</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Improvement of Reliability to the Network Composed of Optical fibers inside Sewerage Pipe</strong></td>
<td>The sewer system in Tokyo covers 100% of the 23 wards area and Bureau of Sewerage, Tokyo Metropolitan Government entered its maintenance management era. We have been integrating operations of pumping stations and water reclamation plants by a remote-control system, so security and reliability of our facilities and back ground systems became a matter of great importance. We lay optical fiber cable inside trunk sewers and it is used as information infrastructure for telecommunication of remote control and our office management (internet, e-mail and so on). In this thesis, we introduce how we use our optical fiber network infrastructure which is constructed in trunk sewers and demonstrate our measures to raise its long-lasting reliability constantly including backup for disconnection fault.</td>
<td>WEFTEC’10 2-6/OCT/10, New Orleans, LA, USA</td>
</tr>
<tr>
<td><strong>Network of sewage treatment plants using connection pipe and its efforts</strong></td>
<td>Tokyo Metropolitan Government (TMG) is now the constructing the network system by using connection pipes which connect the sewage treatment plants (we call “water reclamation center”). By using this system, wastewater, sludge, etc are sent each other, and shared the capacity of treatment each other. This network system is expected to profit various effects, such as saving construction and renewal cost by sharing and enlarging the capacity of the facilities, improvement of the efficiency of operation and maintenance facilities, backup function in case of disaster, and the stabilization of wastewater treatment. It reports on the outline and the effects of connection pipe which is operating now.</td>
<td>WEFTEC’10 2-6/OCT/10, New Orleans, LA, USA</td>
</tr>
<tr>
<td><strong>Effects of Sewage Disposal Conditions on Nitrous Oxide (N(_2)O) Generation</strong></td>
<td>The Bureau of Sewerage is developing technology for reducing the generation of N(_2)O during wastewater treatment to counteract greenhouse gas emissions. Although it is known that the reaction tanks and other tanks working in wastewater treatment generate N(_2)O, it has not been known yet what effect, if any; different processing methods, operating conditions and other factors have on the generation of N(_2)O. We have conducted a survey at an experimental wastewater treatment plant on what differences in processing methods, operating conditions and other factors have on the generation of N(_2)O, we report our findings here on the dissolution of N(_2)O in an anaerobic environment, the relationship between N(_2)O generation and nitrite nitrogen concentration, and N(_2)O generation at the second sedimentation tank.</td>
<td>WEFTEC’10 2-6/OCT/10, New Orleans, LA, USA</td>
</tr>
<tr>
<td><strong>Outline and Problem of Reclaimed Water Supply Business in Tokyo</strong></td>
<td>Tokyo Bureau of Sewerage (TBS) of Tokyo Metropolitan Government (TMG) is proceeding to the advanced treatment and recycling the treated wastewater for various uses in urban areas. Results of the amount of the reclaimed water supply in 2007 were 30,635,400m(^3)/year. This corresponds to 1.9% of the amount of the authorities total discharged water. In the main usage, flush toilet water was 3,261,900m(^3)/year, and discharge for a river basin environmental recovery to the river where the flow of the river had decreased was 27,329,400m(^3)/year. Besides this, it is used to the road watering for mitigation of the heat island phenomenon, and sprinkling the plant, etc. This business has the problem concerning the supply volume of water, the water quality, crisis control. The problem of the supply volume of water is shortage of make water ability at the peak of use. We cope with this problem by a fine operation management and by the reinforcing ability of make water. The problem of the water quality is a disappearance of the residual chlorine, the incorporation of the chironomidae larvae, and the establishment of the risk management technique to a pathogenic chlorine resistant microorganism. The countermeasure concerning chlorine is to improve the nitrification efficiency on the sewage treatment process. Pathogenic microorganisms and chironomids countermeasures is the installation of equipments that can remove them and of the disinfections by ozone and ultraviolet rays. Deterioration of piping and partition valve and the risk management at the earthquake are problem on the facilities side, it is necessary to settle on short-term and a long-term facilities planning, and to execute it steadily.</td>
<td>WEFTEC’09 10–14/OCT/09, Orlando, Fl, USA</td>
</tr>
<tr>
<td>Title</td>
<td>Abstract</td>
<td>Conference name</td>
</tr>
<tr>
<td>-------</td>
<td>----------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Availability of CSO Control and Flood Control of Real-Time Control System in Urban Pumping Station</td>
<td>Bureau of sewerage, Tokyo metropolitan government has installed Real-Time Control System (RTC System) to Umeda pumping station. RTC System in Umeda pumping enables not only CSO control but also flood control by operating pumps according to the inflow increase. The purpose of this thesis is to evaluate availability of the RTC System in Umeda pumping station in the point of CSO control and flood control by the practical use.</td>
<td>WEFTEC'09 10-14/OCT/09, Orlando, Fl, USA</td>
</tr>
<tr>
<td>Effective Operation and Management of Anaerobic-Anoxic-Oxic (A²/O) Process</td>
<td>This paper describes the relationship between PHA (Poly hydroxyl alkanoate) in activated sludge and phosphorus removal and how to calculate optimum influent load into oxic tanks of A²/O process. From this report obtained, maintaining PHA concentration at the end of aerobic tank high is essential to stable phosphorus removal, and results shows optimum load of influent can make phosphorus removal stable. This optimum load can be calculated by nitrification rate and average retention time.</td>
<td>WEFTEC'09 10-14/OCT/09, Orlando, Fl, USA</td>
</tr>
<tr>
<td>Mitigation of Greenhouse Gas Emission from Sludge Incinerators – Innovative Approach by Multilayer Incineration –</td>
<td>As measures to reduce greenhouse gas emission from sludge incinerators, High-Temperature incineration at 850°C, by which about 70% N₂O can be reduced compared with the incineration at 800°C, has been introduced. However, High-Temperature incineration causes the increase in the fuel use. The multilayer incineration can decrease both the amount of fuel and N₂O emission compared with the High-Temperature incineration. In this research, about 83% N₂O reduction compared with the incineration at 800°C and about 12% fuel reduction compared with that at 850°C were obtained by the multilayer incineration.</td>
<td>WEFTEC'09 10-14/OCT/09, Orlando, Fl, USA</td>
</tr>
<tr>
<td>Stormwater Control Measures for Tokyo</td>
<td>A review of data from the 117 precipitation stations in Tokyo show that in 1990 only a dozen or more places recorded hourly rainfall of more than 50 millimetres; in 2005, this number grew to 66. Therefore, Tokyo Metropolitan Government instituted its Basic Policy for Intense Rainfalls in August 2007. The policy has three core goals: to protect lives during flood disasters, to secure indispensable urban functions during inundations and to reduce property damage caused by flooding. While keeping the goals of the long-term plan in sight, we are working to realize the 10-year plan for priority zones by focusing efforts on improving trunks sewers and pumping stations, which are the core infrastructures in flood prevention programs.</td>
<td>8th International Conference on URBAN DRAINAGE MODELLING 7-12/SEP/09, Tokyo, JAPAN</td>
</tr>
<tr>
<td>Utilization of stormwater runoff models for flood control in Tokyo</td>
<td>Tokyo Metropolitan Government (TMG) makes use of rational method and uniform flow calculation to get volume of runoff and sewer size and gradient in case of sewer design. However, in this method, it is difficult to evaluate hydraulics phenomenon in sewer precisely in consideration of topography of a basin and backwater influence. In order to improve the design method enabling the hydraulic gradient keep under ground level in consideration of the topography or backwater influence, TMG examined effective model technique for utilization of runoff analysis simulation and made design manuals for staffs. For the example of utilization of the manual, the most suitable storage method was studied.</td>
<td>8th International Conference on URBAN DRAINAGE MODELLING 7-12/SEP/09, Tokyo, JAPAN</td>
</tr>
<tr>
<td>Improvement of Accuracy in Radar Precipitation Gauge System by an Alliance between Tokyo and Neighboring Municipalities</td>
<td>“Tokyo Amesh” is the name of the radar precipitation gauge system Bureau of Sewerage, Tokyo Metropolitan Government, operates. In 2007, we have developed a system which complements the attenuation or bright band by sharing information on precipitation data with the neighboring municipalities and implementing the broadening treatment on them (successive correction by composition and ground rainfall).</td>
<td>WEFTEC'08 18-22/OCT/08, Chicago, IL, USA</td>
</tr>
<tr>
<td>Making Fuel Charcoal from Sewage Sludge for Thermal Power Generation Plant – First in Japan</td>
<td>The Bureau of Sewerage has launched a new project in which dewatered sludge is turned into fuel charcoal and sold for thermal power generation plant. This project scheme is implemented for the first time in Japan. This project is expected to strongly promote the utilization of sewage sludge and the reduction of greenhouse gas.</td>
<td>WEFTEC'07 13-17/OCT/07, San Diego, CA, USA</td>
</tr>
<tr>
<td>Title</td>
<td>Abstract</td>
<td>Conference name</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Study on Sewage Sludge Gasification</td>
<td>For the purpose of the creation of the new technology to reduce greenhouse gas emission, the Bureau of Sewerage has developed a system generating electricity with a gas engine using biogas generated by pyrolytic gasification of sewage sludge in a fluidized-bed gasifier. A demonstration facility using 15t/d dewatered sludge was built and demonstration tests were run for 3400 hours since 2005. Compared with usual sewage sludge incineration system, this system can reduce more than half of the greenhouse gas volume emitted from the sewage treatment plant.</td>
<td></td>
</tr>
<tr>
<td>Development of New Wastewater Reclamation System with Ozone Resistant Membrane and the Operation Result</td>
<td>Shibaura WWTP introduced new water reclamation system that consists of bio-filter, ozon treatment and ozon-resistant membrane in 2004. This system has been operated for two years without major problems. Effluent quality of this system satisfies national standards for water reuse. (coliforms, water color, turbidity, bad smell etc...). This report describes development history and state of operation of this system from 2004 to 2006.</td>
<td>WEFTEC'07 13–17/OCT/07, San Diego, CA, USA</td>
</tr>
<tr>
<td>Non-conduit Heat Distribution Using Waste Heat from a Sewage Sludge Incinerator</td>
<td>This paper describes Non-conduit Heat Distribution Using Waste Heat from a Sewage Sludge Incinerator at Kiyose WWTP. We incinerate sewage sludge in order to reduce quantity of sludge. Recently new system which can utilize medium temperature waste heat of incinerator has been developed. In this system, waste heat is stored into a Phase Change Material (PCM) and transposed to a public institution that needs the heat by a truck. This system will lead to more contribution to the reduction of greenhouse gas and mitigation of global warming.</td>
<td>WEFTEC'07 13–17/OCT/07, San Diego, CA, USA</td>
</tr>
<tr>
<td>Reduction of CSO Loadings Using Fine Mesh Screen</td>
<td>The Bureau of Sewerage has made best effort to improve combined sewer by decreasing the amount and frequency of CSO (combined sewer overflow) during rainfall. We have installed Fine-Mesh screen (FMS) at Haneda pumping station in March 2006 in order to reduce CSO loadings to receiving water. The aim of FMS is to minimize solid loadings contained in the CSO more greatly than conventional screening system. It has been confirmed in the feasibility study that the system is an effective measure for CSO improvement.</td>
<td>WEFTEC'07 13–17/OCT/07, San Diego, CA, USA</td>
</tr>
<tr>
<td>Coping with Huge Temporary Increase of Inflow to WWTP Resulting from Trunk Sewer Rehabilitation</td>
<td>This paper describes how to cope with the temporal increase of influent into WWTP(wastewater treatment plant). The deterioration of Yushima trunk sewer was so severe that it might cause a serious road caving. So the Bureau of Sewerage decided its urgent rehabilitation. As there was no relief sewer nearby, the upstream sewage flow had to be diverted to another drainage area – Shibaura drainage area, and to be treated at Shibaura WWTP. The increase of inflow was around 25% of daily average. To keep the effluent in proper quality and to manage sludge increase, a task force composed of various specialists was organized in Shibaura WWTP.</td>
<td>WEFTEC'07 13–17/OCT/07, San Diego, CA, USA</td>
</tr>
<tr>
<td>Reclaimed Wastewater Supply Business in Tokyo and Introduction of New Technology</td>
<td>The Bureau of Sewerage has managed “wastewater reuse” project to utilize limited water resources effectively. In this project, municipal sewer wastewater is highly treated and reused for various urban non-potable purposes such as toilet-flushing, washing, fire-fighting, road-spraying and so on. Now, average amount of 8400m³ is daily supplied to 129 facilities in five areas and two more districts will be added to service area. On the other hand, to meet users’ needs for quality of reclaimed water, we have developed a new wastewater reclamation system with “ozone–resistant membrane” which can produce reclaimed water of high quality at relatively low cost. We aim to expand “wastewater reuse” in the future by securing hygienic safety and reduction of the production cost.</td>
<td>6th IWA specialty conference on wastewater reclamation &amp; reuse for sustainability, 9–12/OCT/07, Antwerp, Belgium</td>
</tr>
<tr>
<td>Investigation of Rainfall-Derived Infiltraion &amp; Inflow with the Use of Radar Rainfall Volume Date</td>
<td>This paper describes an analytical approach to clarify areas where rainfall-derived infiltration &amp; inflow (RD&amp;I) may occur in the Asakawa Treatment Area. The levels of RD&amp;I are estimated on the basis of sewage inflow volume and other historical data gathered at the Asakawa Water Reclamation Center, radar rainfall volume data and so on.</td>
<td>WEFTEC'06 21–25/OCT/06, Dallas, TX, USA</td>
</tr>
<tr>
<td>Title</td>
<td>abstract</td>
<td>Conference name</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Development of Operation Navigation System</td>
<td>There are 13 wastewater treatment plants and 82 pumping stations in Tokyo. In order to manage these facilities efficiently, collective operation is being promoted by making use of remote-control system. Due to the decrease of operational staff, operational skills are being lost. As a solution to the problems, Operation Navigation System (ONS) was developed. ONS is a computer guidance system that has human-friendly interface and flexibility. An operator can give operational instruction or action according to guidance message that is shown on supervisory monitoring device timely.</td>
<td>WEFTEC'06 21-25/OCT/06 Dallas, TX, USA</td>
</tr>
</tbody>
</table>