Nunome Dam is located from Osaka Bay at an 86 km place.
Background of the Nunome Dam

Water Utilization

Urban areas required supply of stable water, in order to maintain the population and the high living standard which increased.

Especially Nara had a problem in chronic shortage of water service.

Then, stable supply of city water was realized in Nunome Dam.

Flood Control

The Yodogawa basin system has a plan for river improvement. Nunome Dam has roles of flood control of whole Yodogawa basin system.
Purpose of Nunome Dam

【SPECIFICATION】
Type: Concrete Gravity Dam
Height: 72.0m
Catchments Area: 75km²
Operation Start: 1990

【Purpose】
● Additional Water Utilization (water for water supply)
  Nara city: 1.1263m³/s
  Yamazoe village: 0.0097m³/s

Source: 2008 fiscal year
Water service business annual report of the Nara Waterworks Bureau

● Flood Control
  The flood of 460m³/s becomes 150m³/s in the dam lower stream at a dam point.
  That is, 350m³/s is stored in a dam.

● Discharge for flow Maintenance
  Preservation of the environment and maintenance of normal function of the downstream.

Flood Control: 17 times
We are dealing with the facilities operation in cooperation with the related organization.

- Selective water intake facility
- Surface aeration facilities (fountain): Control of plankton algae
- Shallow shaft aeration stirring facilities: Control of plankton algae
- Deep shaft aeration stirring facilities: Supply oxygen for bed area of reservoir and Control of hydrogen sulfide
- Check dam: Sedimentation of nutrient salts (Phosphorus and Nitrogen of inflow water from upstream)

Monitoring of water quality (Discharge)

- Selective water intake facility
- Shallow shaft aeration stirring facility
- Deep shaft aeration stirring facility
- Check dam
- Surface aeration facility
- Algal bloom
- Nutrient salts and Turbid water from inflow water
Outline water quality preservation facilities

- Selective water intake facility
- Shallow shaft aeration stirring facility
- Deep shaft aeration stirring facility
- Deep shaft aeration stirring facility
- Surface aeration facility
- Check dam

<shallow area>
<Thermocline EL.260.0m>
<bed area>

Dam
Discharge
1. Conservation of Water Storage Capacity
2. Conservation of water quality
   Some nutrient salts in inflow water are deposited into the check dam.
3. The reservoir is used as a recreational facility.
Recent Flood Control

Typhoon No. 18 of autumn of last year
Downstream of Nunome Dam
(Okugahara Town, Nara City)

After it begins to manage, inflow water 190m3/s is the maximum.

0.6km downstream of dam result of flood control

Result of Flood control

The water level of the river in the downstream of a dam achieved the effect of about 1.37m decrease by the flood control operation of the dam.
Power station incorporated in or adjacent to a Dam

- Hydroelectric power has been carried out by water discharged from dam (5,000 MWh/year).
- About 950 MWh/year is used for management.
- Trade surplus electricity.
- The income of about 50 million yen during the year is obtained by selling the surplus electricity.

Cut Down on Management expense.
Cut Down on CO2.

Francis Turbine
Generator

Annual Power Generation (MWh)

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<tr>
<th>Year</th>
<th>Generation</th>
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<tr>
<td>1,992</td>
<td>5,620</td>
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<tr>
<td>1,993</td>
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<td>2,009</td>
<td>5,820</td>
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<td>Total</td>
<td>86,595</td>
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<td>Mean Annual</td>
<td>4,811</td>
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Reservoir area vision

Tour of Japan

Fishing Tournament (check dam upstream)

Marathon rally

CATCH LINE

Forest and person's communications spaces by river
Tour of reservoir area (Facility description)

Elementary school kid of Nara city

Educational Program to children about tap water

Schoolchild's visitor to the dam achieved 40,000 people in May, 2010

Commemoration photography of 40,000 people achievement
Important matter for Managing Nunome Dam

Sharing information
We are keeping in mind to offer of information to the organs concerned.
The contents of offer of information are a water quality situation, a storage-of-water rate, etc.
Moreover, if there is construction which influences a reservoir, we will have announced you construction information in detail.

Exchanged regular opinions
We have an opportunity of exchange of opinions with residents, a river administrator, etc.
And it is striving for the advancement of management.
Especially this exchange of opinions is a thing about the discharge at the time of a flood.

Communications of water resources area
We had deeply relation by a water resources area region, and have participated positively to the event or the local event.
Thereby, we understood the mutual view and think that we would like to carry out that it is useful for improvement in a water resources area region.

Information sharing in the whole water mechanism.
Information sharing in the whole water mechanism.
Japan Water Agency has managed many dams.
The management information is shared.
JWA is managing 48 facilities completed in 53 projects, and constructing for another 15 projects, in the seven river systems designated for water resources development (Tone, Ara, Toyo, Kiso, Yodo, Yoshino and Chikugo River Systems).
Project implementation

Japan Water Agency
Incorporated Administrative Agency

Improving operation efficiency according to the management philosophy

We provide stable supply of safe and high quality water at a reasonable price.